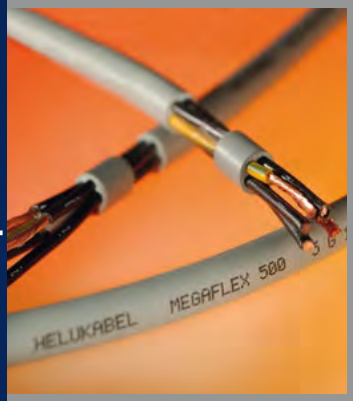
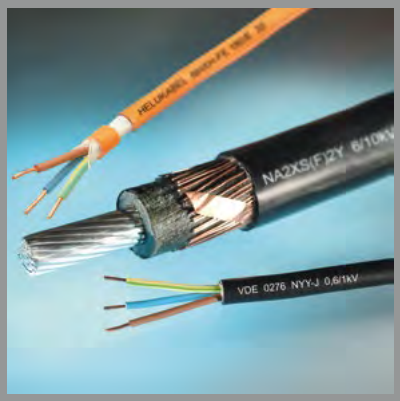
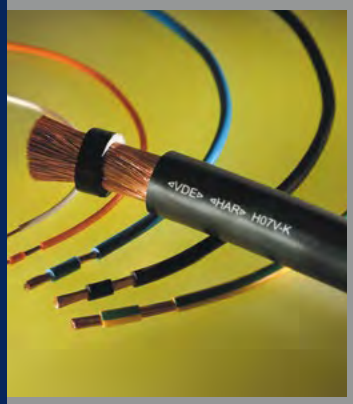
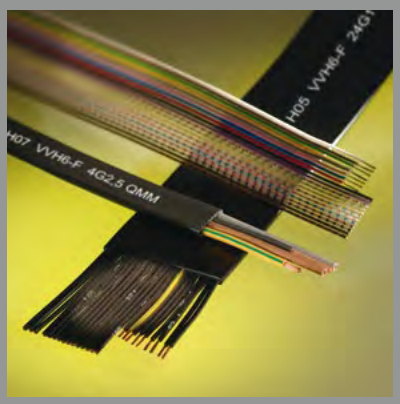
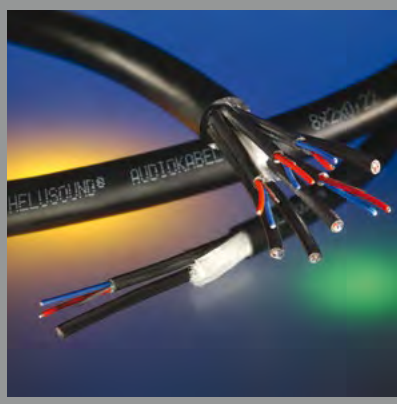
HELUKABEL®











Short Form Catalogue

CABLES, WIRES & ACCESSORIES

Data sheets are as of date of print.
You can find the latest versions online according to this principle:
www.helukabel.com/10001en*

*** Instead of 10001 please insert the wanted part number.**

helukabel.com

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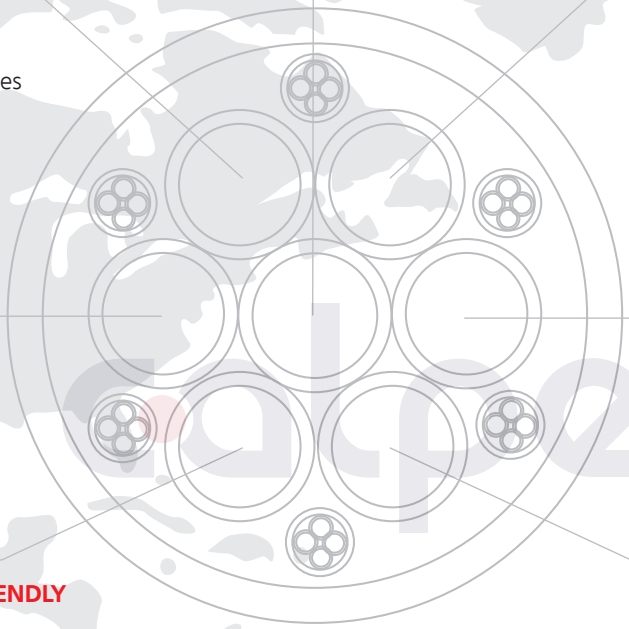
CHAPTER OVERVIEW

HELUKABEL® AT A GLANCE



SOLID

- Family-owned company since 1978

GLOBAL

- 55 locations in 36 countries
- Timely delivery to over 160 countries

"HIDDEN CHAMPION"

- 592 million euro turnover
- 1,600 employees

LOGISTICS

- 33,000 items in stock
- 24-hour delivery service
- State-of-the-art logistics

PRODUCTION

- 6 production and assembly locations worldwide

QUALITY-MINDED AND ECO-FRIENDLY

- ISO 9001, 14001 & 50001
- Energy supplied by the company's own solar and biogas plant

PRODUCTS

- Cables, wires, and accessories from a single source

ALWAYS CLOSE TO YOU

55 international locations in 36 countries

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HELUKABEL® Bulgaria
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kim.hansen@helukabel.dk

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HELUKABEL® Vietnam
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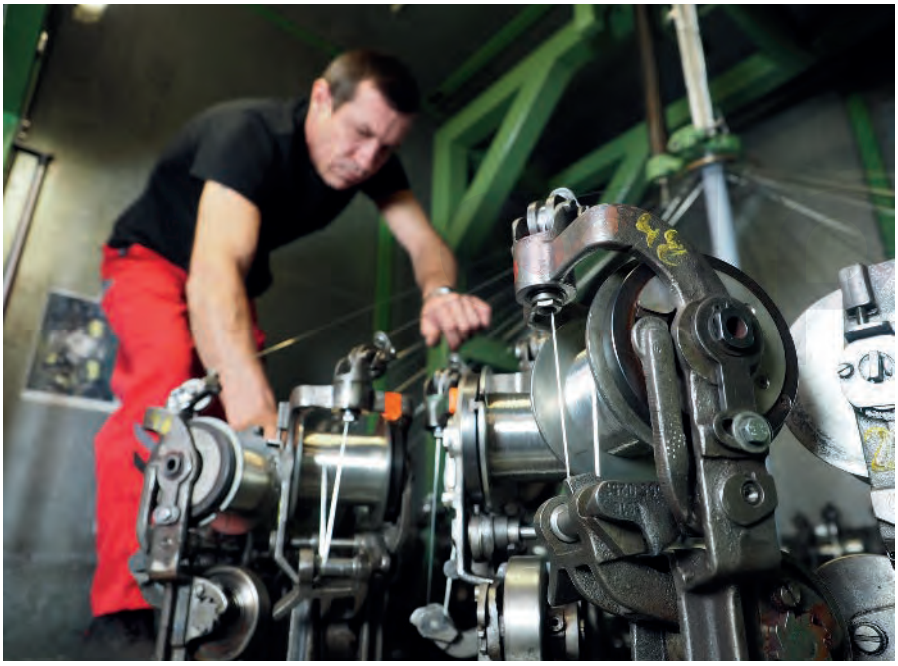
info@helukabel.com.vn

PRODUCTION

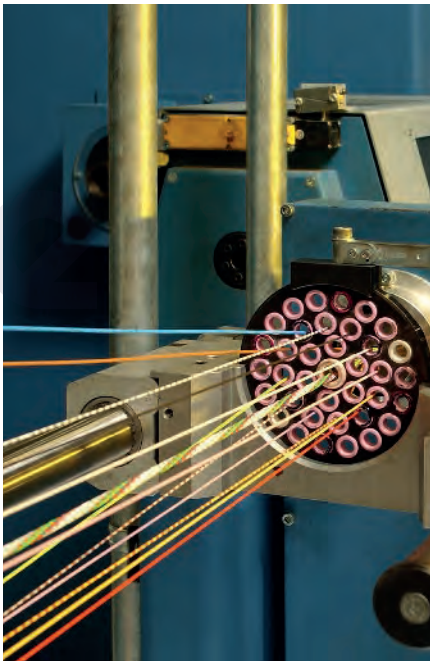
We specialize in the production of high-quality cables and wires.

In our two German plants, using the latest production methods, each year we manufacture approximately one million conductor kilometers (= 25 times around the world). More than 300 qualified employees are specialized in the production of high-quality standard and specialty cables. Through use of the latest materials and collaboration with international test institutes, we drive innovation in the areas of automation, data technology, building system technology, and renewable energy.

Since 2014, in a 7,000 m² facility in the Chinese city of Taicang (approx. 50 km northwest of Shanghai) HELUKABEL® has been producing cable and wires, primarily for the Asian region. As in the German plants, the focus here is also on high-quality, flexible and highly flexible cables and wires that are manufactured in accordance with Chinese and international standards. The use of flexible manufacturing cells enable short delivery times.



Braiding machine



Stranding machine

Our production in numbers:

- 40 000 m² production area
- 23 extruder systems
- 19 stranding machines
- 50 braiding machines
- Cables & wires from 0.05 to 1000 mm²
- Manufacturing in accordance with: VDE, EAC (GOST-R), UL, CSA, HAR, CCC, Germanischer Lloyd, TÜV or customer specification

LOGISTICS

Cable industry logistics redefined.

At its corporate headquarters in the Swabian town of Hemmingen, HELUKABEL® operates Europe's largest distribution centre for cables and wires. This is where a majority of the more than 33,000 products are housed in a 160,000 m² storage area. Through the use of state-of-the-art conveyor and control technology, more than 1,000 orders can be picked and shipped daily to destinations around the world.

Neuenhagen/Berlin is the central warehouse location for underground cable, medium-voltage cable, and other infrastructure cables. Storage capacities of more than 5,000 m² in the warehouse and 50,000 m² outdoors enable fast deliveries of cable, configured from 1 – 30 kV, to construction sites and major projects. The patented heavy load length-cutting machines with more than 10 tons of load capacity are the largest of their type in Germany.The new logistics centre at the Taicang (China) production facility serves as a product distribution hub for the Asian region, and offers incredible advantages, particularly for servicing time-critical and volume-critical major projects.

Heavy-load length-cutting facility

Small parts warehouse

INDUSTRIAL CABLE

Our logistics center - Hemmingen/Stuttgart

- 40,500 Euro-pallet racks 16 aisles with 16 storage and retrieval devices
- 36,800 bin locations in the automatic small parts warehouse capacity: 1,000 bins/h
- 670 storage spaces in the heavy load warehouse: Reels to max. 4,000 kg and 2.20 m diameter
- 2 km conveyor line for pallets
- Conveyer connection directly on the length-cutting machines
- Manual processes reduced to merely packingr

INFRASTRUCTURE CABLES

Our logistics centre - Neuenhagen/Berlin

- 11,000 cable reels in stock
- Automatic processing of reels to 2.80 m Ø and 10 t
- 10 rewinding machines
- Cut to length with state-of-the-art 1,200 mm² cutting tools
- 24 h delivery is possible

OUR VALUES

Success through quality and innovation

HELUKABEL® GmbH is an independent company that develops, manufactures and sells cables, wires and accessories. In an environment of increasing expectations from both customers and society, the growth strategy of HELUKABEL® GmbH is based on consistent target orientation, high adaptability and continuous development of its management system. Our goal is to achieve sustainable business success through the confidence and satisfaction of our customers and society.
As a result, HELUKABEL® GmbH places great emphasis on the quality and environmental impact of its processes and products, the efficient use of resources and energy, and on satisfying legal and regulatory requirements. This is why HELUKABEL® GmbH developed and implemented an integrated management system for quality, environmental impact and energy performance based on the DIN EN ISO 9001, DIN EN ISO 14001 and DIN EN ISO 50001 standards. Our high standards are reflected in the following criteria:

Quality
We satisfy customer requirements by reliability, developing application-specific products, delivering in a timely manner and providing outstanding service.

Customers and society
We achieve success as a company by understanding market and customer demands as well as the requirements and expectations of governments and society.

Environment
We strive to minimise our environmental impact by avoiding emissions and making economic and careful use of natural resources and hazardous materials.

Suppliers
We team up with suppliers who fulfil our quality, environmental and energy standards.

Energy
We continuously improve our energy consuming activities by assessing the use, consumption and efficiency of energy.

Managers and employees
Skilled managers and employees contribute to the success of HELUKABEL® GmbH by working cooperatively as a team and combining a high degree of personal responsibility and independence with a keen awareness of costs, quality, the environment, energy and safety.

Objectives
We develop application-specific products and process orders in a timely manner while striving to avoid or minimise environmental impact.

Conduct
We strive to save costs and protect the environment when addressing customer requirements and act in such a way that allows us to react flexibly to a changing business environment.

Continuous improvement
We continuously improve our products, processes, occupational safety procedures and measures for the protection of the environment.

The integrated management system for quality, environmental impact and energy performance reinforces HELUKABEL®'s success as a company and documents our work processes, which all employees and managers are bound to implement in accordance with what is prescribed in the management handbook.

OUR BRANDED PRODUCTS

Cables & Wires

BIOFLEX-500®	bio-oil resistant cables
CLEANFLEX®	cleanroom data and control cables
DATAFLAMM®	data and computer cables, halogen-free
DATAPUR-C®	data and computer cables
GALVANICABLE®	high-voltage cathode cable
HELUFLON®	heat-resistant cables
HELUTHERM®	heat-resistant cables
HELUTRAIN®	train cables
HELUTRUCK®	vehicle cables / truck cables
HELUWIND®	wind power cables
KOMPOFLEX®	microbe-resistant cables
KOMPOSPEED®	bio-oil resistant drag chain cables
LIFT-TRAGO®	elevator control cables
MEGAFLEX®	flexible control cables, halogen-free (UL/CSA)
MULTIFLEX 512®	drag chain cables PUR
MULTISPEED®	drag chain cables
NANOFLEX®	PUR special control and data cables
ROBOFLEX®	robot cables
SENSORFLEX®	sensor cables
SHIPFLEX®	drag chain cables
SOLARFLEX®	photovoltaic cables
SUPER-PAAR-TRONIC-C-PUR®	drag chain cables, halogen-free
SUPERTRONIC®	drag chain cables
THERMFLEX®	heat-resistant cables
TOPFLEX®	servo, encoder, and motor cables
TOPGEBER®	servo, encoder, and motor cables
TOPSERV®	servo, encoder, and motor cables
TRAYCONTROL®	exposed run cable
TROMMPUR®	easy-to-wind cables
UNIPUR®	flexible control cables PUR

Cable accessories

HELUCHAIN®	drag chain product line
HELUTEC®	industrial connector series
HELUTOP®	cable gland series

Data, network & bus technology

HELUCOM®	fiber optic cables
HELUCOM CONNECTING SYSTEMS®	fiber optic connection technology
HELUKAT®	copper data cable
HELUKAT CONNECTING SYSTEMS®	copper connection technology

Media technology

HELUEVENT®	high-power cable for TV studios
HELULIGHT®	cables for lighting control systems
HELUSOUND®	audio cable

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officieel distributeur

INDUSTRIAL MARINE RAILWAY

calpe

H05VV-F

H03VV-F JZ-500 black

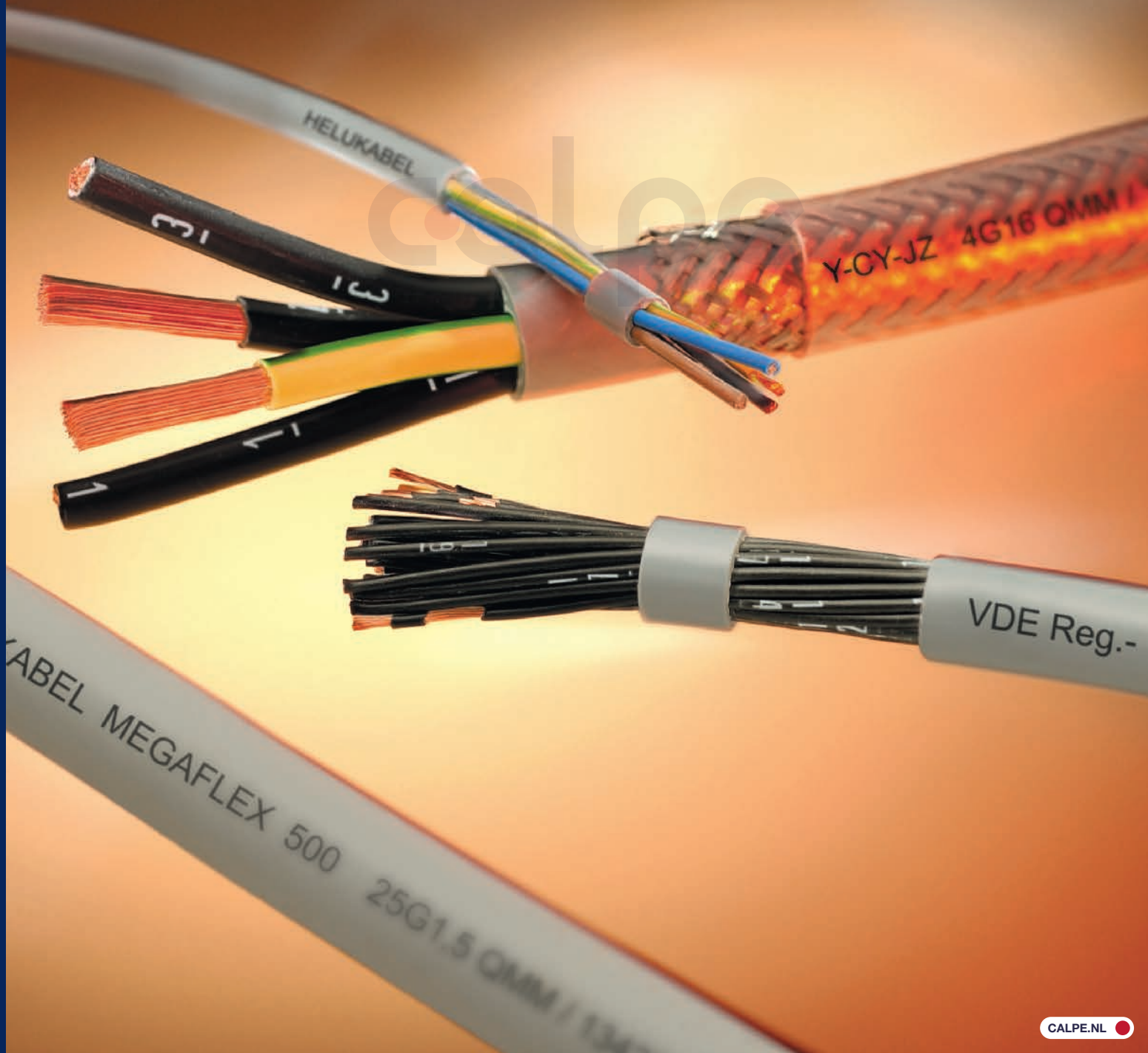
JZ-500 COLD JB-500

JZ-500

H05VV5-F (NYSLYÖ-JZ) JB-750

JB-750 yellow

JZ-600



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FLEXIBLE CONTROL CABLES

JZ-500

flexible, number coded, meter marking

Technical data

- PVC cable adapted to DIN VDE 0285-525-2-51 / DIN EN 50525-2-51
- **Temperature range**
  flexing -15°C to +80°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  4000 V
- **Breakdown voltage**
  min. 8000 V
- **Minimum bending radius**
  flexing 7,5x outer Ø
  fixed installation 4x outer Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of PVC compound type Z 7225
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Outer sheath of PVC compound type TM2 to DIN VDE 0207-363-4-1 / DIN EN 50363-4-1
- Sheath colour: grey (RAL 7001)
- With meter marking

Properties

- Extensively oil resistant, oil-/chemical resistance see "Technical Information"
- Conditional drag chain compatible
- Conditional suitability for torsion
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OZ)
- Please note "cleanroom qualified" when ordering.
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- Screened analogue type:
  F-CY-JZ,
  F-CY-OZ (LiY-CY),
  Y-CY-JB,
  Y-CY-JZ

Application

These cables are appropriate for flexible use with medium mechanical stresses, and free movement without tensile stress or forced movements in dry, moist and wet rooms but not open air. Suitable to be used as connecting and control cables in tool machines, conveyor belts, assembly lines, plant engineering, AC technology, steel production and other manufacturing environments. Selected PVC compounds guarantee good flexibility as well as an economic and fast installation.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
10001	2 x 0,5	4,8	9,6	40,0	20
10002	3 G 0,5	5,1	14,4	46,0	20
10003	3 x 0,5	5,1	14,4	46,0	20
10004	4 G 0,5	5,5	19,0	56,0	20
10005	4 x 0,5	5,5	19,0	56,0	20
10006	5 G 0,5	6,2	24,0	65,0	20
10007	5 x 0,5	6,2	24,0	65,0	20
10008	6 G 0,5	6,7	29,0	75,0	20
10009	7 G 0,5	6,7	33,6	80,0	20
10010	7 x 0,5	6,7	33,6	80,0	20
10011	8 G 0,5	7,4	38,0	97,0	20
10172	8 x 0,5	7,4	38,0	97,0	20
10012	10 G 0,5	8,6	48,0	116,0	20
10013	12 G 0,5	9,1	58,0	135,0	20
10014	12 x 0,5	9,1	58,0	135,0	20
10015	14 G 0,5	9,5	67,0	150,0	20

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
10183	16 G 0,5	10,0	76,0	175,0	20
10016	18 G 0,5	10,7	86,0	196,0	20
10017	20 G 0,5	11,3	96,0	215,0	20
10018	21 G 0,5	11,3	101,0	240,0	20
10019	25 G 0,5	12,6	120,0	270,0	20
10020	30 G 0,5	13,5	144,0	310,0	20
10021	32 G 0,5	14,0	154,0	323,0	20
10022	34 G 0,5	14,7	163,0	362,0	20
10023	40 G 0,5	15,3	192,0	434,0	20
10024	42 G 0,5	15,8	202,0	449,0	20
10025	50 G 0,5	17,3	240,0	513,0	20
10169	52 G 0,5	17,3	252,0	534,0	20
10026	61 G 0,5	18,5	293,0	625,0	20
10027	65 G 0,5	19,2	312,0	682,0	20
10028	80 G 0,5	21,3	384,0	780,0	20
10029	100 G 0,5	23,8	480,0	980,0	20

Continuation ▸

JZ-500

flexible, number coded, meter marking

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
10030	2 x 0,75	5,3	14,4	46,0	19
10031	3 G 0,75	5,6	21,6	54,0	19
10032	3 x 0,75	5,6	21,6	54,0	19
10033	4 G 0,75	6,3	28,8	66,0	19
10034	4 x 0,75	6,3	28,8	66,0	19
10035	5 G 0,75	6,9	36,0	80,0	19
10036	5 x 0,75	6,9	36,0	80,0	19
10037	6 G 0,75	7,7	43,0	99,0	19
10177	6 x 0,75	7,7	43,0	99,0	19
10038	7 G 0,75	7,7	50,0	110,0	19
10039	7 x 0,75	7,7	50,0	110,0	19
10040	8 G 0,75	8,3	58,0	130,0	19
10173	8 x 0,75	8,3	58,0	130,0	19
10041	9 G 0,75	9,1	65,0	153,0	19
10042	10 G 0,75	9,8	72,0	162,0	19
10043	12 G 0,75	10,1	86,0	179,0	19
10044	12 x 0,75	10,1	86,0	179,0	19
10045	14 G 0,75	10,8	101,0	214,0	19
10046	15 G 0,75	11,4	108,0	218,0	19
10047	18 G 0,75	12,2	130,0	257,0	19
10533	19 G 0,75	12,2	137,0	264,0	19
10048	20 G 0,75	12,8	144,0	286,0	19
10049	21 G 0,75	12,8	151,0	320,0	19
10050	25 G 0,75	14,3	180,0	365,0	19
10534	27 G 0,75	14,5	195,0	382,0	19
10051	32 G 0,75	15,9	230,0	455,0	19
10052	34 G 0,75	16,7	245,0	510,0	19
10182	37 G 0,75	16,7	266,0	537,0	19
10053	40 G 0,75	17,3	288,0	595,0	19
10054	41 G 0,75	18,1	296,0	607,0	19
10055	42 G 0,75	18,1	302,0	612,0	19
10056	50 G 0,75	19,8	360,0	735,0	19
10057	61 G 0,75	21,2	439,0	845,0	19
10178	65 G 0,75	22,0	468,0	895,0	19
10058	80 G 0,75	24,3	576,0	1070,0	19
10059	100 G 0,75	27,1	720,0	1322,0	19
10060	2 x 1	5,6	19,2	60,0	18
10061	3 G 1	6,1	29,0	72,0	18
10062	3 x 1	6,1	29,0	72,0	18
10063	4 G 1	6,6	38,0	86,0	18
10064	4 x 1	6,6	38,0	86,0	18
10065	5 G 1	7,5	48,0	104,0	18
10066	5 x 1	7,5	48,0	104,0	18
10067	6 G 1	8,1	58,0	125,0	18
10068	7 G 1	8,1	67,0	141,0	18
10069	7 x 1	8,1	67,0	141,0	18
10070	8 G 1	9,0	77,0	175,0	18
10071	9 G 1	9,8	86,0	200,0	18
10180	10 G 1	10,6	96,0	217,0	18
10170	10 x 1	10,6	96,0	217,0	18
10072	12 G 1	10,9	115,0	230,0	18
10073	12 x 1	10,9	115,0	230,0	18
10074	14 G 1	11,5	134,0	271,0	18
10075	16 G 1	12,3	154,0	300,0	18
10076	18 G 1	12,9	173,0	343,0	18
10174	18 x 1	12,9	173,0	343,0	18
10197	19 G 1	12,9	182,0	355,0	18
10077	20 G 1	13,8	192,0	375,0	18
10184	20 x 1	13,8	192,0	375,0	18
10179	21 G 1	13,8	205,0	420,0	18
10175	24 G 1	15,4	230,0	440,0	18
10078	25 G 1	15,4	240,0	485,0	18
10176	25 x 1	15,4	240,0	485,0	18
10196	26 G 1	15,4	252,0	500,0	18
10198	27 G 1	15,4	259,0	534,0	18
10168	30 x 1	16,5	288,0	550,0	18
10079	34 G 1	17,9	326,0	650,0	18
10080	36 G 1	17,9	346,0	668,0	18
10199	37 G 1	17,9	355,0	701,0	18
10081	40 G 1	18,6	384,0	755,0	18
10167	40 x 1	18,6	384,0	755,0	18
10082	41 G 1	19,4	394,0	770,0	18
10083	42 G 1	19,4	403,0	810,0	18
10084	50 G 1	21,3	480,0	936,0	18
10085	56 G 1	22,1	538,0	920,0	18
10086	61 G 1	22,7	586,0	1100,0	18
10087	65 G 1	23,6	628,0	1180,0	18
10088	80 G 1	26,3	768,0	1294,0	18
10089	100 G 1	29,3	960,0	1644,0	18
10090	2 x 1,5	6,4	29,0	70,0	16
10091	3 G 1,5	6,8	43,0	90,0	16
10092	3 x 1,5	6,8	43,0	90,0	16
10093	4 G 1,5	7,6	58,0	109,0	16
10094	4 x 1,5	7,6	58,0	109,0	16
10095	5 G 1,5	8,3	72,0	131,0	16
10096	5 x 1,5	8,3	72,0	131,0	16
10097	6 G 1,5	9,2	86,0	157,0	16
10098	7 G 1,5	9,2	101,0	184,0	16

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
10099	7 x 1,5	9,2	101,0	184,0	16
10100	8 G 1,5	10,1	115,0	216,0	16
11007735	8 x 1,5	10,1	115,0	216,0	16
10101	9 G 1,5	11,1	129,0	259,0	16
10181	10 G 1,5	12,0	144,0	275,0	16
10102	11 G 1,5	12,0	158,0	300,0	16
10103	12 G 1,5	12,4	173,0	309,0	16
10104	12 x 1,5	12,4	173,0	309,0	16
10105	14 G 1,5	13,0	202,0	345,0	16
10106	16 G 1,5	13,9	230,0	386,0	16
10107	18 G 1,5	14,8	259,0	440,0	16
10185	19 G 1,5	14,8	279,0	445,0	16
10108	20 G 1,5	15,6	288,0	490,0	16
10109	21 G 1,5	15,6	302,0	555,0	16
10110	25 G 1,5	17,6	360,0	620,0	16
10535	27 G 1,5	17,6	389,0	670,0	16
10111	32 G 1,5	19,5	461,0	790,0	16
10112	34 G 1,5	20,2	490,0	830,0	16
10536	37 G 1,5	20,2	533,0	892,0	16
10113	41 G 1,5	22,1	591,0	996,0	16
10114	42 G 1,5	22,1	605,0	1007,0	16
10115	50 G 1,5	24,2	720,0	1250,0	16
10116	56 G 1,5	25,1	806,0	1332,0	16
10117	61 G 1,5	25,8	878,0	1440,0	16
10187	65 G 1,5	26,9	936,0	1602,0	16
10118	80 G 1,5	29,8	1152,0	1871,0	16
10119	100 G 1,5	33,2	1440,0	2353,0	16
10120	2 x 2,5	7,8	48,0	112,0	14
10121	3 G 2,5	8,3	72,0	148,0	14
10122	3 x 2,5	8,3	72,0	148,0	14
10123	4 G 2,5	9,2	96,0	178,0	14
10124	4 x 2,5	9,2	96,0	178,0	14
10125	5 G 2,5	10,1	120,0	221,0	14
10126	5 x 2,5	10,1	120,0	221,0	14
10127	7 G 2,5	11,2	168,0	306,0	14
10128	7 x 2,5	11,2	168,0	306,0	14
10129	8 G 2,5	12,3	192,0	363,0	14
11007736	8 x 2,5	12,3	192,0	363,0	14
10548	10 G 2,5	14,8	240,0	429,0	14
10130	12 G 2,5	15,3	288,0	498,0	14
10131	14 G 2,5	16,2	336,0	569,0	14
10132	18 G 2,5	18,2	432,0	764,0	14
10133	21 G 2,5	19,4	504,0	914,0	14
10134	25 G 2,5	21,6	600,0	1044,0	14
10135	34 G 2,5	25,2	816,0	1470,0	14
10136	42 G 2,5	27,3	1008,0	1790,0	14
10137	50 G 2,5	30,0	1200,0	2095,0	14
10138	61 G 2,5	32,2	1464,0	2750,0	14
10139	100 G 2,5	41,4	2400,0	4450,0	14
10140	2 x 4	9,2	77,0	195,0	12
10141	3 G 4	9,7	115,0	230,0	12
10142	4 G 4	10,8	154,0	295,0	12
10143	5 G 4	12,1	192,0	361,0	12
10144	7 G 4	13,4	269,0	458,0	12
10145	8 G 4	14,7	307,0	590,0	12
10549	10 G 4	17,6	384,0	687,0	12
10146	12 G 4	18,2	461,0	790,0	12
10147	3 G 6	11,9	173,0	355,0	10
10148	4 G 6	13,2	230,0	424,0	10
10149	5 G 6	14,7	288,0	525,0	10
10150	7 G 6	16,2	403,0	625,0	10
10151	3 G 10	14,8	288,0	540,0	8
10152	4 G 10	16,4	384,0	701,0	8
10153	5 G 10	18,3	480,0	858,0	8
10154	7 G 10	20,2	672,0	1106,0	8
10190	3 G 16	18,4	461,0	827,0	6
10155	4 G 16	20,4	614,0	1035,0	6
10156	5 G 16	22,8	768,0	1259,0	6
10157	7 G 16	25,2	1075,0	1780,0	6
10191	3 G 25	22,4	720,0	1186,0	4
10158	4 G 25	25,1	960,0	1582,0	4
10159	5 G 25	27,9	1200,0	1999,0	4
10160	7 G 25	30,8	1680,0	2825,0	4
10192	3 G 35	25,2	1008,0	1585,0	2
10161	4 G 35	27,9	1344,0	2105,0	2
10162	5 G 35	31,0	1680,0	2633,0	2
10193	3 G 50	29,9	1440,0	2550,0	1
10163	4 G 50	33,0	1920,0	2940,0	1
10188	5 G 50	37,0	2400,0	2936,0	1
10194	3 G 70	34,1	2016,0	3180,0	2/0
10164	4 G 70	37,9	2688,0	4090,0	2/0
10189	5 G 70	42,4	3360,0	5443,0	2/0
10195	3 G 95	39,6	2736,0	4680,0	3/0
10165	4 G 95	43,9	3648,0	5540,0	3/0
10333	5 G 95	49,0	4560,0	6931,0	3/0
10166	4 G 120	48,8	4608,0	7000,0	4/0
13139	4 G 150	54,4	5760,0	8340,0	300 kcmil
13140	4 G 185	62,3	7104,0	9904,0	350 kcmil

Dimensions and specifications may be changed without prior notice. (RA01)

F-CY-JZ

flexible, screened, meter marking, EMC-preferred type

Technical data

- Special-PVC control cable adapted to DIN VDE 0285-525-2-51 / DIN EN 50525-2-51
- **Temperature range**
  flexing -10°C to +80°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  core/core 4000 V
  core/screen 2000 V
- **Breakdown voltage**
  min. 8000 V
- **Mutual capacitance**
  acc. to different cross sections 0,5 up to 2,5 mm²:
  core/core approx. 150 pF/m
  core/screen approx. 270 pF/m
- **Coupling resistance**
  max. 250 Ohm/km
- **Minimum bending radius**
  flexing 10x outer Ø
  fixed installation 5x outer Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of special PVC compound type Z 7225
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Foil wrapping
- Tinned copper braided screening, approx. 85% coverage
- Outer sheath of special PVC compound type TM2 to DIN VDE 0207-363-4-1/DIN EN 50363-4-1
- Sheath colour: grey (RAL 7001)
- With meter marking

Properties

- Extensively oil resistant, oil-/chemical resistance see "Technical Information"
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- PVC self-extinguishing and flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OZ)
- Please note "cleanroom qualified" when ordering.
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- Unscreened analogue type:
  JZ-500

Application

For use as a data cable in control circuits, in tool-making and machine industries as well as a signal cable in computer systems and electronics. The more usual PVC inner sheath has been replaced in these cables by a stabilising foil separator, thus reducing the total diameter of the cables considerably and thereby reducing the bending radius, total weight etc. The high covering percentage of the copper screening offers interference-free signal transfer etc. The dense screening assures disturbance-free transmission of all signals and impulses. An ideal disturbance-free control cable for the above application.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
16320	2 x 0,5	5,7	35,0	45,0	20
16321	3 G 0,5	6,0	42,0	55,0	20
16322	4 G 0,5	6,5	47,0	61,0	20
16323	5 G 0,5	6,9	56,0	74,0	20
16324	6 G 0,5	7,6	67,0	89,0	20
16325	7 G 0,5	7,6	69,0	98,0	20
16326	8 G 0,5	8,4	80,0	117,0	20
16327	10 G 0,5	9,5	94,0	135,0	20
16328	12 G 0,5	9,8	108,0	157,0	20
16329	14 G 0,5	10,4	116,0	190,0	20
16330	16 G 0,5	10,9	129,0	210,0	20
16331	18 G 0,5	11,4	145,0	217,0	20
16332	20 G 0,5	12,2	172,0	240,0	20

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
16333	21 G 0,5	12,2	188,0	250,0	20
16334	24 G 0,5	13,7	235,0	300,0	20
16335	25 G 0,5	13,7	240,0	314,0	20
16336	30 G 0,5	14,4	295,0	360,0	20
16337	32 G 0,5	15,1	301,0	425,0	20
16165	34 G 0,5	15,6	312,0	433,0	20
16338	36 G 0,5	15,6	318,0	446,0	20
16339	40 G 0,5	16,4	343,0	475,0	20
16490	41 G 0,5	17,0	348,0	486,0	20
16340	50 G 0,5	18,5	406,0	573,0	20
16341	61 G 0,5	19,6	508,0	653,0	20
16342	80 G 0,5	22,5	680,0	784,0	20
16343	100 G 0,5	25,0	804,0	995,0	20

Continuation ▸

F-CY-JZ

flexible, screened, meter marking, EMC-preferred type

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
16344	2 x 0,75	6,2	40,0	59,0	19
16345	3 G 0,75	6,6	52,0	66,0	19
16346	4 G 0,75	7,1	60,0	77,0	19
16347	5 G 0,75	7,8	71,0	93,0	19
16348	6 G 0,75	8,4	80,0	113,0	19
16349	7 G 0,75	8,4	91,0	130,0	19
16350	8 G 0,75	9,5	110,0	145,0	19
16351	10 G 0,75	10,7	137,0	180,0	19
16353	12 G 0,75	11,1	142,0	202,0	19
16354	14 G 0,75	11,5	180,0	225,0	19
16355	16 G 0,75	12,3	200,0	275,0	19
16356	18 G 0,75	12,9	212,0	292,0	19
16447	19 G 0,75	12,9	230,0	308,0	19
16357	20 G 0,75	13,9	238,0	320,0	19
16358	21 G 0,75	13,9	246,0	378,0	19
16359	24 G 0,75	15,4	270,0	435,0	19
16360	25 G 0,75	15,4	281,0	415,0	19
16361	27 G 0,75	15,7	304,0	435,0	19
16362	30 G 0,75	16,4	320,0	450,0	19
16363	32 G 0,75	17,0	342,0	484,0	19
16166	34 G 0,75	17,8	345,0	502,0	19
16364	36 G 0,75	17,8	350,0	535,0	19
16448	37 G 0,75	17,8	361,0	592,0	19
16365	40 G 0,75	18,4	369,0	610,0	19
16491	41 G 0,75	19,3	400,0	622,0	19
16366	50 G 0,75	21,0	461,0	777,0	19
16367	61 G 0,75	22,3	540,0	900,0	19
16368	80 G 0,75	25,7	711,0	1210,0	19
16369	100 G 0,75	28,5	900,0	1445,0	19
16370	2 x 1	6,5	50,0	65,0	18
16371	3 G 1	6,9	60,0	80,0	18
16372	4 G 1	7,6	71,0	98,0	18
16373	5 G 1	8,2	88,0	127,0	18
16374	6 G 1	9,0	97,0	144,0	18
16375	7 G 1	9,0	111,0	158,0	18
16376	8 G 1	10,0	127,0	197,0	18
16377	10 G 1	11,3	150,0	232,0	18
16378	12 G 1	11,9	184,0	260,0	18
16379	14 G 1	12,4	196,0	302,0	18
16380	16 G 1	13,0	209,0	346,0	18
16381	18 G 1	14,0	260,0	380,0	18
16352	19 G 1	14,0	280,0	412,0	18
16382	20 G 1	14,9	317,0	440,0	18
16383	24 G 1	16,5	320,0	493,0	18
16384	25 G 1	16,5	349,0	534,0	18
16439	27 G 1	16,9	400,0	562,0	18
16385	28 G 1	17,6	408,0	595,0	18
16386	30 G 1	17,6	441,0	616,0	18
16387	34 G 1	19,0	486,0	741,0	18
16446	37 G 1	19,0	519,0	790,0	18
16388	40 G 1	19,7	510,0	835,0	18
16492	41 G 1	20,6	531,0	843,0	18
16389	50 G 1	22,4	625,0	1025,0	18
16390	61 G 1	23,8	702,0	1205,0	18
16391	80 G 1	27,4	920,0	1445,0	18
16392	100 G 1	30,6	1120,0	1613,0	18
16393	2 x 1,5	7,1	63,0	88,0	16

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
16394	3 G 1,5	7,7	80,0	100,0	16
16395	4 G 1,5	8,3	97,0	126,0	16
16396	5 G 1,5	9,2	119,0	160,0	16
16397	7 G 1,5	9,9	147,0	208,0	16
16398	8 G 1,5	11,2	170,0	244,0	16
16399	10 G 1,5	12,7	193,0	315,0	16
16400	12 G 1,5	13,5	267,0	338,0	16
16401	14 G 1,5	14,1	283,0	383,0	16
16402	16 G 1,5	15,0	315,0	424,0	16
16403	18 G 1,5	15,7	374,0	479,0	16
16449	19 G 1,5	15,7	386,0	508,0	16
16404	20 G 1,5	16,7	396,0	545,0	16
16405	21 G 1,5	16,7	425,0	560,0	16
16406	24 G 1,5	18,5	458,0	690,0	16
16407	25 G 1,5	18,5	526,0	705,0	16
16450	27 G 1,5	19,1	531,0	774,0	16
16408	28 G 1,5	19,7	541,0	810,0	16
16409	30 G 1,5	19,7	555,0	830,0	16
16410	35 G 1,5	21,3	645,0	890,0	16
16451	37 G 1,5	21,3	674,0	945,0	16
16411	40 G 1,5	22,3	725,0	1060,0	16
16493	41 G 1,5	23,1	801,0	1071,0	16
16412	50 G 1,5	25,5	885,0	1290,0	16
16413	61 G 1,5	27,1	1100,0	1705,0	16
16414	80 G 1,5	31,1	1324,0	2010,0	16
16415	100 G 1,5	34,5	1641,0	2505,0	16
16416	2 x 2,5	8,5	96,0	130,0	14
16417	3 G 2,5	9,2	144,0	167,0	14
16418	4 G 2,5	10,0	148,0	195,0	14
16419	5 G 2,5	11,0	181,0	223,0	14
16420	7 G 2,5	12,1	255,0	344,0	14
16421	10 G 2,5	15,7	340,0	460,0	14
16438	12 G 2,5	16,4	441,0	570,0	14
16452	18 G 2,5	19,3	570,0	681,0	14
16422	2 x 4	10,5	120,0	185,0	12
16423	3 G 4	11,1	174,0	240,0	12
16424	4 G 4	12,3	230,0	310,0	12
16425	5 G 4	13,8	273,0	385,0	12
16426	7 G 4	15,1	316,0	500,0	12
16427	2 x 6	11,9	173,0	268,0	10
16428	3 G 6	12,6	240,0	330,0	10
16429	4 G 6	14,2	305,0	415,0	10
16430	5 G 6	15,6	439,0	509,0	10
16431	7 G 6	17,1	505,0	672,0	10
16432	2 x 10	15,3	255,0	425,0	8
16433	3 G 10	16,5	350,0	500,0	8
16434	4 G 10	18,2	535,0	783,0	8
16435	5 G 10	20,0	592,0	856,0	8
16436	7 G 10	22,1	810,0	1305,0	8
16458	3 G 16	19,0	585,0	795,0	6
16440	4 G 16	21,0	740,0	880,0	6
16437	5 G 16	23,1	895,0	1295,0	6
16441	4 G 25	26,4	1140,0	1570,0	4
16442	5 G 25	29,0	1380,0	1965,0	4
16443	4 G 35	29,0	1576,0	2070,0	2
16444	5 G 35	32,3	1930,0	2690,0	2
16445	4 G 50	34,8	2155,0	3015,0	1

Dimensions and specifications may be changed without prior notice. (RA01)

Y-CY-JB

flexible, screened, transparent, meter marking, EMC-preferred type

Technical data

- PVC cable adapted to DIN VDE 0285-525-2-51 / DIN EN 50525-2-51
- **Temperature range**
  flexing -15°C to +80°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  up to 1,5 mm² U_0/U 300/500 V
  from 2,5 mm² U_0/U 450/750 V
- **Test voltage**
  4000 V
- **Breakdown voltage**
  min. 8000 V
- **Mutual capacitance**
  acc. to different cross sections 0,5 up to 2,5 mm²:
  core/core approx. 150 pF/m
  core/screen approx. 270 pF/m
- **Coupling resistance**
  max. 250 Ohm/km
- **Minimum bending radius**
  flexing 10x outer Ø
  fixed installation 5x outer Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of PVC compound type Z 7225
- Core identification to JB/OB colour code
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Inner sheath of PVC
- Tinned copper braided screen, approx. 85% coverage
- Outer sheath of PVC
- Sheath colour: transparent
- With meter marking

Properties

- Extensively oil resistant, oil-/chemical resistance see "Technical Information"
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OB).
- Up to 5 cores and cunductor cross section up to 1,5 mm² with VDE REG-No.
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- Unscreened analogue type:
  JB-500
  JB-750

Application

For use as connecting and control cable in machinery, computer systems etc. as well as a signal cable for electronics. The high level of screening ensures a high degree of interference protection. The screening density assures disturbance-free transmission of all signals and impulses. The PVC-inner sheaths of those cables raise the mechanical stress. The applied clear transparent PVC outer sheath accentuates the optical view of the tinned copper braid. These cables are suitable for flexible use for medium mechanical stresses with free movements. The dense screening assures disturbance-free transmission of all signals and impulses. An ideal disturbance-free control cable for the above application.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
16121	2 x 0,5	7,0	41,0	67,0	20
16122	3 G 0,5	7,5	45,0	83,0	20
16123	4 G 0,5	7,9	54,0	94,0	20
16124	5 G 0,5	8,6	66,0	108,0	20
16125	2 x 0,75	7,7	46,0	87,0	19
16126	3 G 0,75	8,0	57,0	98,0	19
16127	4 G 0,75	8,9	63,0	113,0	19
16128	5 G 0,75	9,5	76,0	130,0	19
16129	2 x 1	8,0	54,0	97,0	18
16130	3 G 1	8,6	64,0	103,0	18
16131	4 G 1	9,3	76,0	146,0	18
16132	5 G 1	9,9	89,0	169,0	18
16133	2 x 1,5	9,0	64,0	130,0	16
16134	3 G 1,5	9,4	82,0	152,0	16
16135	4 G 1,5	10,0	99,0	168,0	16
16136	5 G 1,5	10,9	123,0	202,0	16

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
16137	2 x 2,5	11,2	110,0	180,0	14
16138	3 G 2,5	12,2	148,0	216,0	14
16139	4 G 2,5	13,2	169,0	267,0	14
16140	5 G 2,5	14,4	220,0	347,0	14
16141	2 x 4	13,6	124,0	302,0	12
16142	3 G 4	14,3	178,0	340,0	12
16143	4 G 4	15,7	234,0	410,0	12
16144	5 G 4	17,2	284,0	502,0	12
16145	2 x 6	15,0	176,0	350,0	10
16146	3 G 6	16,2	245,0	450,0	10
16147	4 G 6	17,6	316,0	559,0	10
16148	5 G 6	19,4	442,0	702,0	10
16149	2 x 10	18,4	260,0	500,0	8
16150	3 G 10	19,8	367,0	750,0	8
16151	4 G 10	21,5	549,0	1020,0	8
16152	5 G 10	24,0	604,0	1115,0	8

Continuation ▸

Y-CY-JB

flexible, screened, transparent, meter marking, EMC-preferred type

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
16153	4 G 16	26,1	807,0	1380,0	6
16154	5 G 16	28,7	940,0	1553,0	6
16469	4 G 25	31,4	1169,0	1890,0	4
16155	5 G 25	34,9	1420,0	2270,0	4
16470	4 G 35	34,2	1680,0	2390,0	2
16156	5 G 35	38,2	2020,0	2885,0	2

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
16471	4 G 50	40,4	2370,0	3315,0	1
16119	5 G 50	44,6	2880,0	4150,0	1
16472	4 G 70	45,5	3257,0	4600,0	2/0
16473	4 G 95	51,7	4060,0	6060,0	3/0
16474	4 G 120	56,7	5231,0	7315,0	4/0
16247	4 G 150	62,9	7760,0	9340,0	300 kcmil
16319	4 G 185	69,0	8104,0	11120,0	350 kcmil

Dimensions and specifications may be changed without prior notice. (RA01)

SY-JZ

flexible, number coded, with steel wire braiding, meter marking

Technical data

- PVC cable adapted to DIN VDE 0285-525-2-51 / DIN EN 50525-2-51
- **Temperature range**
  flexing -15°C to +80°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  4000 V
- **Breakdown voltage**
  min. 8000 V
- **Minimum bending radius**
  flexing 20x outer Ø
  fixed installation 6x outer Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of PVC compound type Z 7225
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Inner sheath of PVC
- Galvanized steel wire braid
- Outer sheath of PVC
- Sheath colour: transparent
- With meter marking

Properties

- Extensively oil resistant, oil-/chemical resistance see "Technical Information"
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OZ)
- Cleanroom qualification tested with analog type. Please note "cleanroom qualified" when ordering.
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- Screened analogue type: **SY-JB**

Application

SY-JZ cables are used as connecting and control cables in tool machinery, plant installation, power stations and in data equipment. The braided screen offers best possible protection against mechanical damage. The galvanized coating on the steel wire braiding not only helps protect against corrosion, but also notably improves the soldering performance.
The clear transparent outer sheath gives the cable in addition an optical revaluation.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
12001	2 x 0,5	7,4	9,6	80,0	20
12002	3 G 0,5	7,7	14,4	92,0	20
12003	4 G 0,5	8,1	19,2	102,0	20
12004	5 G 0,5	9,0	24,0	119,0	20
12005	7 G 0,5	9,5	33,6	157,0	20
12006	10 G 0,5	11,4	48,0	205,0	20
12007	12 G 0,5	11,9	58,0	218,0	20
12008	14 G 0,5	12,5	67,0	242,0	20
12009	18 G 0,5	13,7	86,0	340,0	20
12010	21 G 0,5	14,3	101,0	370,0	20
12114	25 G 0,5	15,8	120,0	406,0	20
12012	30 G 0,5	16,7	144,0	439,0	20
12013	35 G 0,5	17,9	168,0	500,0	20
12014	40 G 0,5	18,5	192,0	565,0	20
12015	42 G 0,5	19,4	202,0	593,0	20
12016	50 G 0,5	20,9	240,0	690,0	20
12017	61 G 0,5	22,1	293,0	843,0	20
12018	80 G 0,5	25,4	384,0	1050,0	20
12011	100 G 0,5	28,1	480,0	1240,0	20

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
12019	2 x 0,75	7,9	14,4	98,0	19
12020	3 G 0,75	8,2	21,6	103,0	19
12021	4 G 0,75	9,1	28,8	122,0	19
12022	5 G 0,75	9,7	36,0	142,0	19
12112	6 G 0,75	10,5	43,2	180,0	19
12023	7 G 0,75	10,5	50,0	185,0	19
12188	8 G 0,75	11,1	57,6	201,0	19
12024	9 G 0,75	12,1	65,0	249,0	19
12113	10 G 0,75	12,8	72,0	252,0	19
12025	12 G 0,75	13,4	86,0	292,0	19
12026	15 G 0,75	14,4	108,0	335,0	19
12027	18 G 0,75	15,2	130,0	388,0	19
12028	21 G 0,75	16,2	151,0	474,0	19
12029	25 G 0,75	17,7	180,0	503,0	19
12030	32 G 0,75	19,5	230,0	644,0	19
12031	34 G 0,75	20,1	245,0	663,0	19
12032	41 G 0,75	21,5	296,0	741,0	19
12033	50 G 0,75	23,6	360,0	925,0	19
12034	61 G 0,75	25,0	439,0	1082,0	19

Continuation ▸

SY-JZ

flexible, number coded, with steel wire braiding, meter marking

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
12035	2 x 1	8,2	19,2	112,0	18
12036	3 G 1	9,0	28,8	132,0	18
12037	4 G 1	9,5	38,4	143,0	18
12038	5 G 1	10,1	48,0	166,0	18
12039	6 G 1	10,9	58,0	22,0	18
12040	7 G 1	10,9	67,0	227,0	18
12041	8 G 1	12,0	77,0	277,0	18
12042	9 G 1	12,8	86,0	295,0	18
12043	12 G 1	14,0	115,0	340,0	18
12044	14 G 1	14,7	134,0	420,0	18
12045	18 G 1	16,3	173,0	500,0	18
12046	20 G 1	17,0	192,0	532,0	18
12047	25 G 1	18,6	240,0	664,0	18
12048	34 G 1	21,3	326,0	845,0	18
12049	36 G 1	21,3	346,0	857,0	18
12050	41 G 1	23,0	394,0	993,0	18
12051	50 G 1	25,3	480,0	1112,0	18
12052	56 G 1	25,9	538,0	1225,0	18
12053	61 G 1	26,9	586,0	1306,0	18
12054	65 G 1	27,8	624,0	1504,0	18
12055	80 G 1	30,7	768,0	1750,0	18
12056	100 G 1	33,9	960,0	1950,0	18
12057	2 x 1,5	9,2	29,0	129,0	16
12058	3 G 1,5	9,6	43,0	149,0	16
12059	4 G 1,5	10,4	58,0	185,0	16
12060	5 G 1,5	11,1	72,0	205,0	16
12109	6 G 1,5	12,2	87,0	255,0	16
12061	7 G 1,5	12,2	101,0	285,0	16
12062	8 G 1,5	13,2	115,0	340,0	16
12063	9 G 1,5	14,1	130,0	347,0	16
12064	10 G 1,5	15,0	144,0	418,0	16
12065	11 G 1,5	15,0	158,0	430,0	16
12066	12 G 1,5	15,4	173,0	444,0	16
12067	14 G 1,5	16,4	202,0	533,0	16
12068	18 G 1,5	18,0	259,0	593,0	16
12069	25 G 1,5	21,0	360,0	781,0	16
12070	32 G 1,5	23,1	461,0	1015,0	16
12071	34 G 1,5	24,0	490,0	1124,0	16
12072	42 G 1,5	25,9	605,0	1401,0	16
12073	50 G 1,5	28,4	720,0	1583,0	16
12074	61 G 1,5	30,2	878,0	1810,0	16
12075	80 G 1,5	34,4	1152,0	2316,0	16
12076	100 G 1,5	38,4	1440,0	2900,0	16

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
12077	2 x 2,5	10,6	48,0	185,0	14
12078	3 G 2,5	11,1	72,0	248,0	14
12079	4 G 2,5	12,2	96,0	290,0	14
12080	5 G 2,5	13,3	120,0	347,0	14
12081	7 G 2,5	14,2	168,0	420,0	14
12082	12 G 2,5	18,5	288,0	660,0	14
12083	14 G 2,5	19,7	336,0	750,0	14
12084	18 G 2,5	21,6	432,0	893,0	14
12085	20 G 2,5	23,0	480,0	1169,0	14
12086	25 G 2,5	25,6	600,0	1458,0	14
12087	30 G 2,5	27,3	720,0	1686,0	14
12088	34 G 2,5	29,4	816,0	1869,0	14
12089	50 G 2,5	34,7	1200,0	2200,0	14
12090	61 G 2,5	36,8	1464,0	3000,0	14
12115	3 G 4	12,6	117,0	350,0	12
12091	4 G 4	13,9	154,0	428,0	12
12092	5 G 4	15,2	192,0	504,0	12
12093	7 G 4	16,6	269,0	640,0	12
12094	11 G 4	21,0	422,0	1204,0	12
12095	4 G 6	16,4	230,0	571,0	10
12096	5 G 6	17,9	288,0	671,0	10
12097	7 G 6	19,6	403,0	845,0	10
12098	4 G 10	19,9	384,0	943,0	8
12099	5 G 10	22,0	480,0	1065,0	8
12100	7 G 10	24,0	672,0	1551,0	8
12101	4 G 16	24,1	614,0	1360,0	6
12102	5 G 16	26,7	768,0	1740,0	6
12103	7 G 16	29,2	1075,0	2166,0	6
12104	4 G 25	29,1	960,0	2020,0	4
12105	5 G 25	32,2	1200,0	2465,0	4
12106	4 G 35	32,1	1344,0	2570,0	2
12107	5 G 35	35,5	1680,0	3185,0	2
12108	4 G 50	37,9	1920,0	3513,0	1
12116	5 G 50	42,0	2400,0	4248,0	1
12111	4 G 70	43,0	2688,0	4810,0	2/0
12117	5 G 70	47,8	3360,0	5880,0	2/0
12110	4 G 95	49,6	3648,0	6360,0	3/0
12118	5 G 95	54,8	4560,0	8071,0	3/0
12119	4 G 120	54,6	4608,0	8170,0	4/0
12327	4 G 150	59,8	5760,0	9970,0	300 kcmil

Dimensions and specifications may be changed without prior notice. (RA01)

SY-JB

flexible, colour coded, with steel wire braiding, meter marking

Technical data

- PVC cable adapted to DIN VDE 0285-525-2-51 / DIN EN 50525-2-51
- **Temperature range**
  flexing -15°C to +80°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  up to 2,5 mm² U_0/U 300/500 V
  from 4 mm² U_0/U 450/750 V
- **Test voltage**
  4000 V
- **Breakdown voltage**
  min. 8000 V
- **Minimum bending radius**
  flexing 20x outer Ø
  fixed installation 6x outer Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of PVC compound type Z 7225
- Core identification to JB/OB colour code
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Inner sheath of PVC
- Galvanized steel wire screening
- Outer sheath of PVC compound type TM2 to DIN VDE 0207-363-4-1/DIN EN 50363-4-1
- Sheath colour: transparent
- With meter marking

Properties

- Extensively oil resistant, oil-/chemical resistance see "Technical Information"
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OB).
- Up to 5 cores and conductor cross section up to 2,5 mm² with VDE REG-No.
- Please note the cleanroom qualification when ordering.
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- Screened analogue type:
  SY-JZ

Application

SY-JB cables are used as connecting and control cables in tool machinery, plant installation, power stations and in data equipment. The braided screen offers best possible protection against mechanical damage. The galvanized coating on the steel wire braiding not only helps protect against corrosion, but also notably improves the soldering performance.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
12200	2 x 0,5	7,4	9,6	80,0	20
12201	3 G 0,5	7,7	14,4	92,0	20
12202	4 G 0,5	8,1	19,2	102,0	20
12203	5 G 0,5	9,0	24,0	119,0	20
12204	7 G 0,5	9,5	33,6	157,0	20
12205	10 G 0,5	11,4	48,0	205,0	20
12206	12 G 0,5	11,9	58,0	218,0	20
12218	2 x 0,75	7,9	14,4	98,0	19
12219	3 G 0,75	8,2	21,6	103,0	19
12220	4 G 0,75	9,1	28,8	122,0	19
12221	5 G 0,75	9,7	36,0	142,0	19
12312	6 G 0,75	10,5	43,2	180,0	19
12222	7 G 0,75	10,5	50,0	185,0	19
12223	9 G 0,75	12,1	65,0	249,0	19
12313	10 G 0,75	12,8	72,0	252,0	19
12224	12 G 0,75	13,4	86,0	292,0	19
12234	2 x 1	8,2	19,2	112,0	18
12235	3 G 1	9,0	28,8	132,0	18
12236	4 G 1	9,5	38,4	143,0	18
12237	5 G 1	10,1	48,0	166,0	18
12238	6 G 1	10,9	58,0	220,0	18
12239	7 G 1	10,9	67,0	227,0	18
12240	8 G 1	12,0	77,0	277,0	18
12241	9 G 1	12,8	86,0	295,0	18
12242	12 G 1	14,0	115,0	340,0	18

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
12256	2 x 1,5	9,2	29,0	129,0	16
12257	3 G 1,5	9,6	43,0	149,0	16
12258	4 G 1,5	10,4	58,0	185,0	16
12259	5 G 1,5	11,1	72,0	205,0	16
12260	6 G 1,5	12,2	87,0	255,0	16
12261	7 G 1,5	12,2	101,0	285,0	16
12262	8 G 1,5	13,2	115,0	340,0	16
12263	9 G 1,5	14,1	130,0	347,0	16
12264	10 G 1,5	15,0	144,0	418,0	16
12265	11 G 1,5	15,0	158,0	430,0	16
12266	12 G 1,5	15,4	173,0	444,0	16
12277	2 x 2,5	10,6	48,0	185,0	14
12278	3 G 2,5	11,1	72,0	248,0	14
12279	4 G 2,5	12,2	96,0	290,0	14
12280	5 G 2,5	13,3	120,0	347,0	14
12281	7 G 2,5	14,2	168,0	420,0	14
12282	12 G 2,5	18,5	288,0	660,0	14
12291	2 x 4	13,6	77,0	330,0	12
12318	3 G 4	14,3	115,0	375,0	12
12292	4 G 4	15,7	154,0	428,0	12
12293	5 G 4	17,2	192,0	504,0	12
12294	7 G 4	18,6	269,0	640,0	12
12295	3 G 6	16,2	173,0	543,0	10
12296	4 G 6	17,6	230,0	571,0	10
12297	5 G 6	19,4	288,0	671,0	10
12298	7 G 6	21,0	403,0	845,0	10

Continuation ▸

SY-JB

flexible, colour coded, with steel wire braiding, meter marking

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
12319	3 G 10	19,8	288,0	735,0	8
12299	4 G 10	21,5	384,0	943,0	8
12300	5 G 10	24,0	480,0	1065,0	8
12301	7 G 10	26,6	672,0	1551,0	8
12320	3 G 16	23,5	461,0	1080,0	6
12302	4 G 16	26,1	614,0	1360,0	6
12303	5 G 16	28,7	768,0	1740,0	6
12304	7 G 16	31,4	1075,0	2166,0	6
12321	3 G 25	28,6	720,0	1630,0	4
12305	4 G 25	31,4	960,0	2020,0	4
12306	5 G 25	34,9	1200,0	2465,0	4
12322	3 G 35	31,3	1008,0	1932,0	2
12307	4 G 35	34,2	1344,0	2570,0	2
12308	5 G 35	38,2	1680,0	3185,0	2

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
12323	3 G 50	36,4	1440,0	2679,0	1
12309	4 G 50	40,4	1920,0	3513,0	1
12314	5 G 50	44,6	2400,0	4248,0	1
12324	3 G 70	41,1	2016,0	2790,0	2/0
12310	4 G 70	45,5	2688,0	4810,0	2/0
12315	5 G 70	50,4	3360,0	5880,0	2/0
12325	3 G 95	47,0	2736,0	4870,0	3/0
12311	4 G 95	51,7	3648,0	6360,0	3/0
12316	5 G 95	57,2	4560,0	8071,0	3/0
12326	3 G 120	51,6	3456,0	6230,0	4/0
12317	4 G 120	56,7	4608,0	8170,0	4/0
12328	4 G 150	62,9	5760,0	9970,0	300 kcmil

Dimensions and specifications may be changed without prior notice. (RA01)

JZ-600

0,6/1 kV, flexible, number coded, meter marking

Technical data

- PVC cable
  adapted to DIN VDE 0262
  and DIN VDE 0285-525-2-51 /
  DIN EN 50525-2-51,
  with insulation wall thickness for 1 kV
- **Temperature range**
  flexing -15°C to +80°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  U_0/U 0,6/1 kV
- **Test voltage**
  4000 V
- **Breakdown voltage**
  min. 8000 V
- **Minimum bending radius**
  flexing 7,5x outer Ø
  fixed installation 4x outer Ø

Cable structure

- Bare copper conductor,
  fine wire acc. to
  DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of special PVC
  compound type TI2 to
  DIN VDE 0207-363-3 / DIN EN 50363-3
- Core identification to DIN VDE 0293
  black cores with continuous white
  numbering
- GN-YE conductor, 3 cores and above
  in the outer layer
- Cores stranded in layers with
  optimal lay length
- Outer sheath of special PVC
  compound type TM2 to
  DIN VDE 0207-363-4-1/DIN EN 50363-4-1
- Sheath colour: black (RAL 9005)
- With meter marking

Properties

- Extensively oil resistant,
  oil-/chemical resistance
  see "Technical Information"
- UV resistant
- The materials used during manufacturing
  are cadmium-free, contain no silicone
  and are free from substances harmful
  to the wetting properties of lacquers

Tests

- Flame retardant acc. to
  DIN VDE 0482-332-1-2 /
  DIN EN 60332-1-2 / IEC 60332-1-2

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OZ)
- The conductor is metrically constructed
  (mm²). The AWG designation is
  approximate and purely informative.
- Screened analogue type:
  JZ-600-Y-CY

Application

Connecting and control cable in tool machinery, conveyor belts and production lines, for plant installations, air conditioning and in steel production plants and rolling mills. Suitable for installation for flexible use for medium mechanical stresses with free movement without tensile stress or forced movements in dry, moist and wet rooms as well as outside (fixed installation). Is not suitable to be used as direct burial (suitable from an outer diameter of 18,0 mm for direct burial) or as underwater cable. The black, special PVC outer sheath is resistant to the ultra violet radiation. Mainly used in South-European, Eastern and Arabian countries.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
10550	2 x 0,5	6,2	9,6	56,0	20
10551	3 G 0,5	6,5	14,0	68,0	20
10552	3 x 0,5	6,5	14,0	68,0	20
10553	4 G 0,5	7,0	19,0	100,0	20
10554	4 x 0,5	7,0	19,0	100,0	20
10555	5 G 0,5	7,9	24,0	117,0	20
10556	5 x 0,5	7,9	24,0	117,0	20
10557	6 G 0,5	8,5	29,0	126,0	20
10558	7 G 0,5	8,5	34,0	138,0	20
10559	7 x 0,5	8,5	34,0	138,0	20
10560	8 G 0,5	9,4	38,0	150,0	20
10561	8 x 0,5	9,4	38,0	150,0	20
10562	10 G 0,5	11,0	48,0	176,0	20
10563	12 G 0,5	11,3	58,0	200,0	20
10564	12 x 0,5	11,3	58,0	200,0	20
10565	14 G 0,5	11,9	67,0	230,0	20

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
10566	16 G 0,5	12,7	76,0	250,0	20
10567	18 G 0,5	13,3	86,0	276,0	20
10568	20 G 0,5	14,2	96,0	293,0	20
10569	21 G 0,5	14,2	96,0	305,0	20
10570	25 G 0,5	15,8	120,0	335,0	20
10571	30 G 0,5	16,9	144,0	348,0	20
10572	32 G 0,5	18,7	154,0	355,0	20
10573	34 G 0,5	19,3	163,0	520,0	20
10574	40 G 0,5	20,0	192,0	590,0	20
10575	42 G 0,5	20,6	202,0	595,0	20
10576	50 G 0,5	22,3	240,0	715,0	20
10577	52 G 0,5	22,3	252,0	740,0	20
10578	61 G 0,5	23,5	293,0	840,0	20
10579	65 G 0,5	24,2	312,0	880,0	20
10580	80 G 0,5	26,7	384,0	960,0	20
10581	100 G 0,5	29,7	480,0	1050,0	20

Continuation ▸

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JZ-600

0,6/1 kV, flexible, number coded, meter marking

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
10582	2 x 0,75	6,7	14,0	66,0	19
10583	3 G 0,75	7,1	22,0	74,0	19
10584	3 x 0,75	7,1	22,0	74,0	19
10585	4 G 0,75	7,7	29,0	126,0	19
10586	4 x 0,75	7,7	29,0	126,0	19
10587	5 G 0,75	8,5	36,0	140,0	19
10588	5 x 0,75	8,5	36,0	140,0	19
10589	6 G 0,75	9,5	43,0	170,0	19
10590	6 x 0,75	9,5	43,0	170,0	19
10591	7 G 0,75	9,5	50,0	190,0	19
10592	7 x 0,75	9,5	50,0	190,0	19
10593	8 G 0,75	10,2	58,0	212,0	19
10594	8 x 0,75	10,2	58,0	212,0	19
10595	9 G 0,75	11,1	65,0	227,0	19
10596	10 G 0,75	12,2	72,0	238,0	19
10597	12 G 0,75	12,6	86,0	257,0	19
10598	12 x 0,75	12,6	86,0	257,0	19
10599	14 G 0,75	13,2	101,0	286,0	19
10600	15 G 0,75	14,0	108,0	319,0	19
10601	18 G 0,75	14,8	130,0	362,0	19
10602	20 G 0,75	15,7	144,0	394,0	19
10603	21 G 0,75	15,7	151,0	422,0	19
10604	25 G 0,75	17,5	180,0	486,0	19
10605	32 G 0,75	20,3	230,0	595,0	19
10606	34 G 0,75	21,1	245,0	638,0	19
10607	37 G 0,75	21,1	260,0	696,0	19
10608	40 G 0,75	21,8	288,0	726,0	19
10609	41 G 0,75	22,5	296,0	750,0	19
10610	42 G 0,75	22,5	302,0	770,0	19
10611	50 G 0,75	24,4	360,0	895,0	19
10612	61 G 0,75	25,8	439,0	1070,0	19
10613	65 G 0,75	26,7	468,0	1110,0	19
10614	80 G 0,75	29,7	576,0	1500,0	19
10615	100 G 0,75	33,0	720,0	1889,0	19
10616	2 x 1	7,0	19,2	80,0	18
10617	3 G 1	7,4	29,0	96,0	18
10618	3 x 1	7,4	29,0	96,0	18
10619	4 G 1	8,2	38,0	100,0	18
10620	4 x 1	8,2	38,0	100,0	18
10621	5 G 1	9,0	48,0	130,0	18
10622	5 x 1	9,0	48,0	130,0	18
10623	6 G 1	9,9	58,0	150,0	18
10624	7 G 1	9,9	67,0	170,0	18
10625	7 x 1	9,9	67,0	170,0	18
10626	8 G 1	10,9	77,0	230,0	18
10627	9 G 1	11,7	86,0	250,0	18
10628	10 G 1	12,8	96,0	270,0	18
10629	10 x 1	12,8	96,0	270,0	18
10630	12 G 1	13,2	115,0	290,0	18
10631	12 x 1	13,2	115,0	290,0	18
10632	14 G 1	14,0	134,0	320,0	18
10633	16 G 1	14,8	154,0	360,0	18
10634	18 G 1	15,7	173,0	405,0	18
10635	18 x 1	15,7	173,0	405,0	18
10636	20 G 1	16,7	192,0	450,0	18
10637	20 x 1	16,7	192,0	480,0	18
10638	21 G 1	16,7	205,0	510,0	18
10639	24 G 1	19,6	236,0	550,0	18
10640	25 G 1	19,6	240,0	570,0	18
10641	25 x 1	19,6	240,0	570,0	18
10642	26 G 1	19,6	252,0	590,0	18
10643	30 x 1	20,6	308,0	650,0	18
10644	34 G 1	22,1	326,0	750,0	18
10645	36 G 1	22,1	346,0	790,0	18
10646	40 G 1	22,9	384,0	850,0	18
10647	40 x 1	22,9	384,0	850,0	18
10648	41 G 1	23,7	394,0	890,0	18
10649	42 G 1	23,7	403,0	900,0	18
10650	50 G 1	25,6	480,0	1100,0	18
10651	56 G 1	26,4	538,0	1190,0	18
10652	61 G 1	27,3	586,0	1266,0	18
10653	65 G 1	28,3	628,0	1560,0	18
10654	80 G 1	31,5	786,0	1810,0	18
10655	100 G 1	35,0	960,0	1950,0	18
10656	2 x 1,5	8,2	29,0	95,0	16
10657	3 G 1,5	8,7	43,0	112,0	16
10658	3 x 1,5	8,7	43,0	112,0	16
10659	4 G 1,5	9,7	58,0	139,0	16
10660	4 x 1,5	9,7	58,0	139,0	16
10661	5 G 1,5	10,5	72,0	170,0	16
10662	5 x 1,5	10,5	72,0	170,0	16
10663	6 G 1,5	11,6	86,0	190,0	16
10664	7 G 1,5	11,6	101,0	225,0	16
10665	7 x 1,5	11,6	101,0	225,0	16

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
10666	8 G 1,5	12,7	115,0	250,0	16
10667	9 G 1,5	13,9	130,0	280,0	16
10668	10 G 1,5	15,2	144,0	300,0	16
10669	11 G 1,5	15,2	158,0	330,0	16
10670	12 G 1,5	15,7	173,0	370,0	16
10671	12 x 1,5	15,7	173,0	370,0	16
10672	14 G 1,5	16,6	202,0	400,0	16
10673	16 G 1,5	17,5	230,0	450,0	16
10674	18 G 1,5	19,6	259,0	520,0	16
10675	19 G 1,5	19,6	279,0	550,0	16
10676	20 G 1,5	20,6	288,0	600,0	16
10677	21 G 1,5	20,6	302,0	600,0	16
10678	25 G 1,5	22,6	360,0	730,0	16
10679	32 G 1,5	24,7	461,0	880,0	16
10680	34 G 1,5	25,6	490,0	950,0	16
10681	40 G 1,5	26,8	576,0	990,0	16
10682	42 G 1,5	27,7	605,0	1120,0	16
10683	50 G 1,5	30,4	720,0	1400,0	16
10684	56 G 1,5	31,5	806,0	1530,0	16
10685	61 G 1,5	32,6	878,0	1700,0	16
10686	65 G 1,5	33,5	936,0	1900,0	16
10687	80 G 1,5	37,5	1152,0	2300,0	16
10688	100 G 1,5	41,8	1440,0	2700,0	16
10689	2 x 2,5	9,6	48,0	160,0	14
10690	3 G 2,5	10,1	72,0	175,0	14
10691	3 x 2,5	10,1	72,0	175,0	14
10692	4 G 2,5	11,2	96,0	203,0	14
10693	4 x 2,5	11,2	96,0	203,0	14
10694	5 G 2,5	12,5	120,0	251,0	14
10695	5 x 2,5	12,5	120,0	251,0	14
10696	7 G 2,5	13,8	168,0	330,0	14
10697	7 x 2,5	13,8	168,0	330,0	14
10698	8 G 2,5	15,1	192,0	400,0	14
10699	12 G 2,5	19,6	288,0	553,0	14
10700	14 G 2,5	20,5	336,0	630,0	14
10701	18 G 2,5	22,6	432,0	795,0	14
10702	21 G 2,5	23,8	504,0	930,0	14
10703	25 G 2,5	26,2	600,0	1110,0	14
10704	34 G 2,5	30,4	816,0	1450,0	14
10705	42 G 2,5	33,0	1008,0	1750,0	14
10706	50 G 2,5	36,3	1200,0	2100,0	14
10707	61 G 2,5	38,8	1464,0	2540,0	14
10708	100 G 2,5	50,0	2400,0	3850,0	14
10709	2 x 4	11,0	77,0	180,0	12
10710	3 G 4	11,6	115,0	230,0	12
10711	4 G 4	12,9	154,0	310,0	12
10712	5 G 4	14,3	192,0	410,0	12
10713	7 G 4	15,8	269,0	540,0	12
10714	8 G 4	17,3	307,0	710,0	12
10715	12 G 4	22,1	461,0	860,0	12
10716	3 G 6	13,1	173,0	370,0	10
10717	4 G 6	14,5	230,0	430,0	10
10718	5 G 6	16,2	288,0	650,0	10
10719	7 G 6	19,0	403,0	860,0	10
10720	3 G 10	16,7	288,0	660,0	8
10721	4 G 10	19,5	384,0	790,0	8
10722	5 G 10	21,3	480,0	960,0	8
10723	7 G 10	23,2	672,0	1300,0	8
10724	3 G 16	21,1	461,0	700,0	6
10725	4 G 16	22,9	614,0	1100,0	6
10726	5 G 16	25,2	768,0	1600,0	6
10727	7 G 16	27,6	1075,0	1890,0	6
10728	3 G 25	25,0	720,0	1450,0	4
10729	4 G 25	27,4	960,0	1600,0	4
10730	5 G 25	30,7	1200,0	2050,0	4
10731	7 G 25	34,0	1680,0	2900,0	4
10732	3 G 35	27,5	1008,0	1900,0	2
10733	4 G 35	30,4	1344,0	2400,0	2
10734	5 G 35	34,0	1680,0	2900,0	2
10735	3 G 50	32,2	1440,0	2700,0	1
10736	4 G 50	35,8	1920,0	3400,0	1
10742	5 G 50	39,9	2400,0	4361,0	1
10737	3 G 70	36,4	2016,0	3300,0	2/0
10738	4 G 70	40,4	2688,0	4400,0	2/0
10743	5 G 70	45,1	3360,0	5807,0	2/0
10739	3 G 95	41,9	2736,0	5050,0	3/0
10740	4 G 95	46,4	3648,0	6010,0	3/0
10744	5 G 95	51,7	4560,0	7752,0	3/0
10741	4 G 120	51,3	4608,0	7500,0	4/0
11007924	5 G 120	56,4	5760,0	7659,0	4/0
10745	4 G 150	57,0	5760,0	8640,0	300 kcmil
11007925	5 G 150	62,9	7200,0	9562,0	300 kcmil
10746	4 G 185	62,8	7104,0	10380,0	350 kcmil

Dimensions and specifications may be changed without prior notice. (RA01)

JZ-600-Y-CY

0,6/1 kV, flexible, number coded, screened, meter marking, EMC-preferred type

Technical data

- Adapted to DIN VDE 0262 and DIN VDE 0285-525-2-51 / DIN EN 50525-2-51
- **Temperature range**
  flexing -15°C to +80°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  U_0/U 0,6/1 kV
- **Test voltage**
  4000 V
- **Breakdown voltage**
  min. 8000 V
- **Coupling resistance**
  max. 250 Ohm/km
- **Minimum bending radius**
  flexing 10x outer Ø
  fixed installation 5x outer Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of Special PVC compound type TI2 to DIN VDE 0207-363-3 / DIN EN 50363-3
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Inner sheath of PVC
- Tinned copper braided screen, approx. 85% coverage
- Outer sheath of special PVC compound type TM2 to DIN VDE 0207-363-4-1/DIN EN 50363-4-1
- Sheath colour: black (RAL 9005)
- With meter marking

Properties

- Extensively oil resistant, oil-/chemical resistance see "Technical Information"
- UV resistant
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OZ)
- The conductor is metrically constructed (mm^2). The AWG designation is approximate and purely informative.
- Unscreened analogue type:
  JZ-600

Application

Connecting and control cable in tool machinery, conveyor belts and production lines, for plant installations, air conditioning and in steel production plants and rolling mills. Suitable for installation for flexible use for medium mechanical stresses with free movement without tensile stress or forced movements in dry, moist and wet rooms as well as outside (fixed installation). Is not suitable to be used as direct burial (suitable from an outer diameter of 20 mm for direct burial) or as underwater cable. The black, special PVC outer sheath is resistant to the ultra violet radiation. Mainly used in South-European, Eastern and Arabian countries. Interference-free transmission of signals and pulses is assured by the high degree of screening.
EMC = Electromagnetic compatibility
To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
11464	2 x 0,5	8,4	41,0	115,0	20
11465	3 G 0,5	8,8	45,0	127,0	20
11466	4 G 0,5	9,3	54,0	149,0	20
11467	5 G 0,5	10,1	66,0	169,0	20
11469	7 G 0,5	10,9	79,0	230,0	20
11472	12 G 0,5	14,0	137,0	386,0	20
11475	18 G 0,5	16,3	156,0	428,0	20
11478	25 G 0,5	19,0	250,0	693,0	20
11489	2 x 0,75	8,9	46,0	128,0	19
11490	3 G 0,75	9,3	57,0	143,0	19
11491	4 G 0,75	10,1	63,0	164,0	19
11492	5 G 0,75	11,0	76,0	198,0	19
11494	7 G 0,75	11,9	100,0	232,0	19
11498	12 G 0,75	15,4	175,0	360,0	19
11501	18 G 0,75	18,0	240,0	562,0	19
11504	25 G 0,75	21,9	306,0	729,0	19

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
11516	2 x 1	9,2	54,0	146,0	18
11517	3 G 1	9,8	64,0	165,0	18
11518	4 G 1	10,4	76,0	204,0	18
11519	5 G 1	11,6	89,0	224,0	18
11521	7 G 1	12,3	114,0	379,0	18
11525	12 G 1	16,2	186,0	430,0	18
11528	18 G 1	18,9	284,0	636,0	18
11532	25 G 1	22,8	387,0	837,0	18
11546	2 x 1,5	10,4	64,0	175,0	16
11547	3 G 1,5	11,3	82,0	213,0	16
11548	4 G 1,5	12,0	99,0	247,0	16
11549	5 G 1,5	13,1	123,0	300,0	16
11551	7 G 1,5	14,6	148,0	364,0	16
11556	12 G 1,5	18,7	274,0	668,0	16
11559	18 G 1,5	22,8	386,0	844,0	16
11563	25 G 1,5	26,2	531,0	1356,0	16

Continuation ▸

JZ-600-Y-CY

0,6/1 kV, flexible, number coded, screened, meter marking, EMC-preferred type

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
11574	2 x 2,5	12,0	110,0	241,0	14
11575	3 G 2,5	12,6	148,0	266,0	14
11576	4 G 2,5	13,9	169,0	351,0	14
11577	5 G 2,5	15,4	220,0	434,0	14
11578	7 G 2,5	16,6	284,0	517,0	14
11580	12 G 2,5	22,8	470,0	862,0	14
11582	18 G 2,5	26,2	572,0	1236,0	14
11584	25 G 2,5	30,6	740,0	1659,0	14
11590	2 x 4	13,4	124,0	306,0	12
11591	3 G 4	14,7	178,0	444,0	12
11592	4 G 4	15,9	234,0	489,0	12
11593	5 G 4	17,6	284,0	623,0	12
11594	7 G 4	19,0	385,0	775,0	12
11596	12 G 4	25,5	581,0	1244,0	12
11597	2 x 6	15,2	176,0	433,0	10
11598	3 G 6	16,2	245,0	572,0	10
11599	4 G 6	17,8	316,0	673,0	10
11600	5 G 6	19,4	442,0	841,0	10
11601	7 G 6	22,2	530,0	1078,0	10
11602	2 x 10	18,6	260,0	640,0	8
11603	3 G 10	20,0	367,0	820,0	8
11604	4 G 10	22,7	549,0	979,0	8
11605	5 G 10	24,8	604,0	1207,0	8
11606	7 G 10	26,8	820,0	2210,0	8
11607	2 x 16	23,2	491,0	1150,0	6

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
11608	3 G 16	24,5	653,0	1395,0	6
11609	4 G 16	26,5	807,0	1426,0	6
11610	5 G 16	29,3	940,0	2720,0	6
11611	7 G 16	32,0	1345,0	3213,0	6
11612	3 G 25	29,0	920,0	1810,0	4
11613	4 G 25	32,0	1169,0	2261,0	4
11614	5 G 25	35,3	1420,0	2773,0	4
11615	7 G 25	38,6	1921,0	4980,0	4
11616	3 G 35	31,9	1250,0	2400,0	2
11617	4 G 35	35,0	1680,0	2973,0	2
11618	5 G 35	38,6	2020,0	3548,0	2
11619	3 G 50	37,0	1887,0	3120,0	1
11620	4 G 50	40,8	2370,0	3873,0	1
11621	5 G 50	45,2	2880,0	4634,0	1
11622	3 G 70	41,5	2516,0	4220,0	2/0
11623	4 G 70	45,9	3257,0	5546,0	2/0
11624	5 G 70	50,8	4032,0	6410,0	2/0
11625	3 G 95	47,4	3086,0	5240,0	3/0
11626	4 G 95	52,3	4060,0	6538,0	3/0
11627	5 G 95	57,4	5244,0	7812,0	3/0
11628	3 G 120	52,2	4176,0	7210,0	4/0
11629	4 G 120	56,9	5231,0	7994,0	4/0
13137	4 G 150	63,3	7760,0	10305,0	300 kcmil
13147	4 G 185	69,4	8104,0	12154,0	350 kcmil

Dimensions and specifications may be changed without prior notice. (RA01)

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JZ-602

two approval control cable, 90°C, 600 V, meter marking

Technical data

- Control cable of special-PVC acc. to UL CSA AWM I/II A/B Style 2587 and CSA
- **Temperature range**
  flexing -5°C to +90°C
  fixed installation -40°C to +90°C
- **Nominal voltage**
  UL/CSA 600 V
- **Test voltage**
  3000 V
- **Breakdown voltage**
  min. 6000 V
- **Minimum bending radius**
  flexing 7,5x cable Ø
  fixed installation 4x cable Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation PVC
  UL type 90°C acc. to UL Std. 758 as well as CSA-Std. C22.2 No.210
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal selected lay length
- Outer sheath PVC
  UL type 90°C acc. to UL Std. 758 as well as CSA-Std. C22.2 No.210
- Sheath colour: grey (RAL 7001)
- With meter marking

Properties

- Extensively oil resistant
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame retardant
  acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 / UL VW-1 / CSA FT1

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OZ)
- Please note "cleanroom qualified" when ordering.
- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- Screened analogue type:
  JZ-602-CY

Application

UL-approved and CSA certified flexible control cable rated at 600 V. Used in machine tools, control systems, connection between control panels and machines, assembly lines and other industrial equipment. Suitable for installation in dry, moist or wet environment and moderate flexing applications.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
83090	2 x 0,5	20	5,0	9,6	49,0
83091	3 G 0,5	20	5,3	14,0	58,0
83092	4 G 0,5	20	5,7	19,0	69,0
83093	5 G 0,5	20	6,2	24,0	84,0
83094	7 G 0,5	20	6,7	34,0	123,0
83100	8 G 0,5	20	7,2	38,4	140,0
83101	9 G 0,5	20	7,8	43,2	177,0
83095	12 G 0,5	20	8,8	58,0	192,0
83096	18 G 0,5	20	10,5	86,0	256,0
83097	25 G 0,5	20	12,4	120,0	358,0
83098	34 G 0,5	20	14,3	163,0	487,0
83099	41 G 0,5	20	15,4	197,0	580,0
83080	2 x 1	18	5,8	19,2	53,0
83081	3 G 1	18	6,1	27,0	61,0
83565	3 x 1	18	6,1	27,0	61,0
83082	4 G 1	18	6,6	38,4	74,0
83083	5 G 1	18	7,3	48,0	90,0
83084	7 G 1	18	7,9	67,0	130,0
83102	8 G 1	18	8,8	76,8	144,0
83103	9 G 1	18	9,4	86,4	180,0
83085	12 G 1	18	10,6	115,2	198,0
83086	18 G 1	18	12,7	173,0	274,0
83087	25 G 1	18	15,0	240,0	384,0
83088	34 G 1	18	17,5	326,0	494,0
83089	41 G 1	18	18,8	394,0	508,0
83070	2 x 1,5	16	6,4	28,8	73,0
83071	3 G 1,5	16	6,8	44,0	94,0
83072	4 G 1,5	16	7,4	58,0	117,0
83073	5 G 1,5	16	8,1	72,0	140,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
83074	7 G 1,5	16	9,0	101,0	186,0
83104	9 G 1,5	16	10,7	129,7	244,0
83075	12 G 1,5	16	11,8	173,0	319,0
83076	18 G 1,5	16	14,4	260,0	451,0
83077	25 G 1,5	16	17,0	360,0	625,0
83078	34 G 1,5	16	19,8	490,0	840,0
83079	41 G 1,5	16	21,5	590,0	1032,0
83060	2 x 2,5	14	7,6	48,0	115,0
83061	3 G 2,5	14	8,1	72,0	143,0
83062	4 G 2,5	14	9,0	96,0	185,0
83063	5 G 2,5	14	9,9	120,0	221,0
83064	7 G 2,5	14	11,0	168,0	293,0
83065	9 G 2,5	14	13,1	216,0	429,0
83066	12 G 2,5	14	14,7	288,0	563,0
83067	18 G 2,5	14	17,8	432,0	854,0
83068	19 G 2,5	14	17,8	456,0	914,0
83069	25 G 2,5	14	21,2	600,0	1188,0
83051	3 G 4	12	9,5	115,0	232,0
83052	4 G 4	12	10,6	154,0	298,0
83053	5 G 4	12	11,7	192,0	358,0
83054	7 G 4	12	13,0	269,0	460,0
83041	3 G 6	10	11,5	173,0	360,0
83042	4 G 6	10	12,8	231,0	402,0
83043	5 G 6	10	14,3	288,0	484,0
83044	7 G 6	10	15,8	403,0	630,0
83031	3 G 10	8	14,9	288,0	535,0
83032	4 G 10	8	16,5	384,0	653,0
83033	5 G 10	8	18,5	480,0	786,0
83034	7 G 10	8	20,4	672,0	1100,0

Continuation ▸

JZ-602

two approval control cable, 90°C, 600 V, meter marking

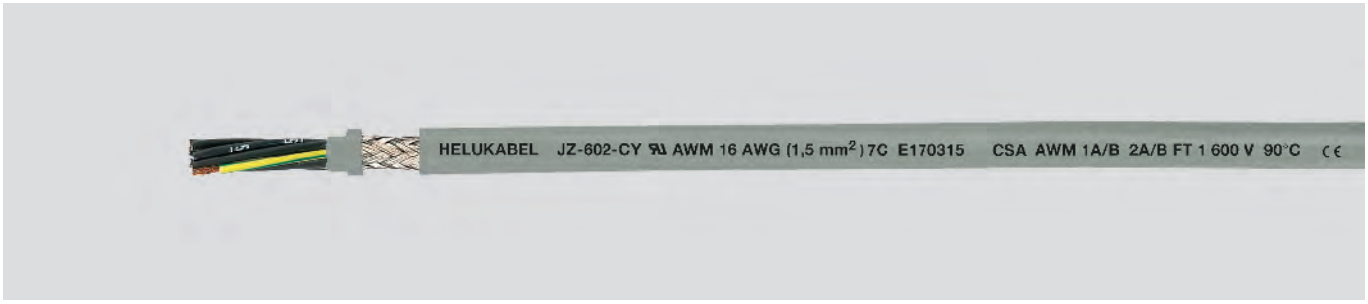
Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
83020	2 x 16	6	17,6	307,0	640,0
83021	3 G 16	6	18,6	461,0	810,0
83022	4 G 16	6	20,5	615,0	1045,0
83023	5 G 16	6	23,0	768,0	1260,0
83024	7 G 16	6	25,2	1075,0	1760,0
83011	3 G 25	4	23,1	720,0	1180,0
83012	4 G 25	4	25,4	960,0	1507,0
83013	5 G 25	4	28,4	1200,0	1858,0
83014	7 G 25	4	31,4	1680,0	2830,0
83001	3 G 35	2	25,4	1008,0	1590,0
83002	4 G 35	2	28,2	1344,0	2123,0
83003	5 G 35	2	31,5	1680,0	2612,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
83004	3 G 50	1	30,1	1440,0	2652,0
83005	4 G 50	1	33,4	1920,0	3058,0
83006	5 G 50	1	37,3	2400,0	4093,0
83007	3 G 70	2/0	34,2	2016,0	3307,0
83008	4 G 70	2/0	37,9	2688,0	4254,0
83009	5 G 70	2/0	42,4	3360,0	5661,0
83010	3 G 95	3/0	38,6	2736,0	4867,0
83015	4 G 95	3/0	42,7	3648,0	5762,0
83016	5 G 95	3/0	47,8	4560,0	7208,0
83017	3 G 120	4/0	42,9	3456,0	5580,0
83018	4 G 120	4/0	47,6	4608,0	7280,0
83019	5 G 120	4/0	53,1	5760,0	8692,0

Dimensions and specifications may be changed without prior notice. (RN01)

JZ-602-CY

Screened two approval control cable, 90°C, 600 V, meter marking, EMC-preferred type



Technical data

- Control cable of special-PVC acc. to UL CSA AWM I/II A/B Style 2587 and CSA
- **Temperature range** flexing -5°C to +90°C fixed installation -40°C to +90°C
- **Nominal voltage** UL/CSA 600 V
- **Test voltage** 3000 V
- **Breakdown voltage** min. 6000 V
- **Coupling resistance** max. 250 Ohm/km
- **Minimum bending radius** flexing 10x cable Ø fixed installation 5x cable Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation PVC UL type 90°C acc. to UL Std. 758 as well as CSA-Std. C22.2 No.210
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal selected lay length
- Inner sheath PVC UL type 90°C acc. to UL Std. 758 as well as CSA-Std. C22.2 No.210
- Braided screen of tinned Cu wires, coverage approx. 85 %
- Outer sheath PVC UL type 90°C acc. to UL Std. 758 as well as CSA-Std. C22.2 No.210
- Sheath colour: grey (RAL 7001)
- With meter marking

Properties

- Extensively oil resistant
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 / UL VW-1 / CSA FT1

Note

- G = with GN-YE conductor x = without GN-YE conductor (OZ)
- Cleanroom qualification tested with analog type. Please note "cleanroom qualified" when ordering.
- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- Unscreened analogue type: **JZ-602**

Application

UL and CSA approved flexible control cables up to 600 V, for all machinery in tooling and plant construction, suitable for installation in dry, moist or wet environments for medium mechanical loads. Designed for the export-orientated machinery manufacturer, specifically for USA and Canada. The thick braiding screen ensures compliance with electromagnetic requirements.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
82990	2 x 0,5	20	7,0	35,0	93,0
82991	3 G 0,5	20	7,3	42,0	124,0
82992	4 G 0,5	20	7,7	47,0	133,0
82993	5 G 0,5	20	8,2	56,0	153,0
82994	7 G 0,5	20	8,9	69,0	191,0
82995	9 G 0,5	20	10,0	87,0	243,0
82996	12 G 0,5	20	11,0	108,0	322,0
82997	18 G 0,5	20	13,1	145,0	374,0
82998	25 G 0,5	20	15,0	240,0	436,0
82999	34 G 0,5	20	16,9	312,0	560,0
83000	41 G 0,5	20	18,4	348,0	663,0
82979	2 x 1	18	7,8	50,0	107,0
82980	3 G 1	18	8,2	60,0	130,0
82981	4 G 1	18	8,9	71,0	155,0
82982	5 G 1	18	9,5	88,0	181,0
82983	7 G 1	18	10,1	111,0	209,0
82984	9 G 1	18	11,8	139,0	321,0
82985	12 G 1	18	13,3	184,0	341,0
82986	18 G 1	18	15,3	260,0	473,0
82987	25 G 1	18	18,0	349,0	650,0
82988	34 G 1	18	20,5	486,0	781,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
82989	41 G 1	18	22,0	531,0	892,0
82968	2 x 1,5	16	8,4	63,0	136,0
82969	3 G 1,5	16	9,0	80,0	165,0
82970	4 G 1,5	16	9,6	97,0	192,0
82971	5 G 1,5	16	10,5	119,0	224,0
82972	7 G 1,5	16	11,2	147,0	273,0
82973	9 G 1,5	16	13,3	182,0	340,0
82974	12 G 1,5	16	14,7	267,0	461,0
82975	18 G 1,5	16	17,0	374,0	674,0
82976	25 G 1,5	16	20,2	526,0	950,0
82977	34 G 1,5	16	23,0	629,0	1203,0
82978	41 G 1,5	16	25,1	801,0	1588,0
82959	2 x 2,5	14	9,8	96,0	173,0
82960	3 G 2,5	14	10,5	144,0	220,0
82961	4 G 2,5	14	11,2	148,0	270,0
82962	5 G 2,5	14	12,5	181,0	329,0
82963	7 G 2,5	14	13,6	255,0	428,0
82964	9 G 2,5	14	15,9	309,0	580,0
82965	12 G 2,5	14	17,5	441,0	761,0
82966	18 G 2,5	14	21,0	570,0	1140,0
82967	25 G 2,5	14	24,6	738,0	1551,0

Continuation ▸

JZ-602-CY

Screened two approval control cable, 90°C, 600 V, meter marking, EMC-preferred type

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
82954	2 x 4	12	11,2	120,0	209,0
82955	3 G 4	12	12,0	174,0	310,0
82956	4 G 4	12	13,3	230,0	456,0
82957	5 G 4	12	14,6	273,0	532,0
82958	7 G 4	12	15,8	316,0	737,0
82949	2 x 6	10	13,4	173,0	318,0
82950	3 G 6	10	14,3	240,0	411,0
82951	4 G 6	10	15,4	305,0	572,0
82952	5 G 6	10	16,9	439,0	732,0
82953	7 G 6	10	18,6	505,0	961,0
82945	3 G 10	8	17,7	350,0	741,0
82946	4 G 10	8	19,8	535,0	988,0
82947	5 G 10	8	21,7	592,0	1202,0
82948	7 G 10	8	23,6	810,0	1743,0
82941	3 G 16	6	21,9	585,0	1088,0
82942	4 G 16	6	24,0	740,0	1662,0
82943	5 G 16	6	26,6	895,0	2021,0
82944	7 G 16	6	28,8	1282,0	2720,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
82937	3 G 25	4	26,7	1070,0	1947,0
82938	4 G 25	4	29,1	1140,0	2591,0
82939	5 G 25	4	32,3	1380,0	3197,0
82940	7 G 25	4	35,2	1870,0	4530,0
82934	3 G 35	2	29,1	1240,0	2701,0
82935	4 G 35	2	32,1	1576,0	3277,0
82936	5 G 35	2	35,4	1930,0	4530,0
82488	3 G 50	1	34,0	1675,0	2870,0
82780	4 G 50	1	37,4	2155,0	3960,0
82781	5 G 50	1	41,3	2794,0	4371,0
82782	3 G 70	2/0	38,4	2288,0	3647,0
82783	4 G 70	2/0	42,3	3120,0	4882,0
82914	5 G 70	2/0	46,7	3705,0	5876,0
82915	3 G 95	3/0	42,9	3010,0	4751,0
82916	4 G 95	3/0	47,2	4043,0	6368,0
82917	5 G 95	3/0	52,4	5026,0	7843,0
82918	3 G 120	4/0	47,3	3812,0	5899,0
82919	4 G 120	4/0	52,2	5069,0	8010,0
82920	5 G 120	4/0	57,9	5877,0	9205,0

Dimensions and specifications may be changed without prior notice. (RN01)

JZ-604 TC TRAY CABLE

PVC power cable, open installation TC-ER, NFPA 79, 90°C, 600 V, meter marking

Technical data

- PVC power cable
  acc. to UL Std.1277 TRAY CABLE
- **Multinorm**
  also conforms to the following standards:
  AWM-Style 2587 to UL Std.758 and
  CSA-Std. C22.2 No.210 I/II A/B
- **Temperature range**
  dry environment
  flexing -5°C to +90°C
  fixed installation -25°C to +90°C
  wet environment
  flexing -5°C to +75°C
  fixed installation -25°C to +75°C
- **Nominal voltage**
  UL 600 V
- **Test voltage**
  3000 V
- **Breakdown voltage**
  min. 6000 V
- **Minimum bending radius**
  flexing 7,5x cable Ø
  fixed installation 4x cable Ø

Cable structure

- Bare copper conductor, fine wire
  acc. to DIN VDE 0295 cl.5 /
  IEC 60228 cl.5
- Core insulation of PVC class 12 B
  acc. to tab. 50.155 UL Std.1581,
  type TFF to UL Std.62 (AWG 20-AWG 16)
  type THHW to UL Std.83 (⩾ AWG 14)
- Core identification to DIN VDE 0293
  black cores with continuous white
  numbering
- GN-YE conductor, 3 cores and above
  in the outer layer
- Cores stranded in layers with
  optimal lay length
- Outer sheath of PVC
  acc. to UL Std.1277 tab.11.2
- Sheath colour: black (RAL 9005)
- With meter marking

Properties

- UV resistant
- The materials used during manufacturing
  are cadmium-free, contain no silicone
  and are free from substances harmful
  to the wetting properties of lacquers

Tests

- Self-extinguishing and flame retardant
  acc. to CSA FT4
- UL OIL RES I OIL RES II
- Class 1 Div. 2 per NEC Art. 336, 392, 501

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OZ)
- AWG sizes are approximate equivalent
  values. The actual cross section is in mm².
- Screened analogue type:
  JZ-604-FCY TC TRAY CABLE
  JZ-604-YCY TC TRAY CABLE

Application

USA NFPA 79 conformant flexible power cables up to 600 V, for all machinery in tool and plant constuction, suitable for installation in dry, humid and damp environments, in the open and in pipes. For underground installation and for open, unprotected installation from the cable rack to machines and industrial plants.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69661	2 x 1	18	8,0	19,2	91,0
69662	3 G 1	18	8,4	29,0	105,0
69663	4 G 1	18	9,2	39,0	126,0
69664	5 G 1	18	10,0	48,0	149,0
69665	7 G 1	18	11,7	67,0	198,0
69666	9 G 1	18	12,6	84,0	245,0
69667	10 G 1	18	13,9	96,0	255,0
69668	12 G 1	18	14,7	115,0	309,0
69669	18 G 1	18	17,1	173,0	433,0
69670	25 G 1	18	20,3	240,0	576,0
69671	34 G 1	18	23,7	326,0	794,0
69672	50 G 1	18	27,8	480,0	1081,0
69673	2 x 1,5	16	8,4	29,0	106,0
69674	3 G 1,5	16	8,8	43,0	123,0
69675	4 G 1,5	16	9,6	58,0	148,0
69676	5 G 1,5	16	10,5	72,0	178,0
69677	7 G 1,5	16	12,3	101,0	236,0
69678	8 G 1,5	16	13,3	115,0	248,0
69679	9 G 1,5	16	13,3	130,0	300,0
69680	10 G 1,5	16	14,9	144,0	313,0
69681	12 G 1,5	16	15,6	173,0	377,0
69682	16 G 1,5	16	17,2	230,0	478,0
69683	18 G 1,5	16	18,2	259,0	534,0
69684	25 G 1,5	16	22,7	360,0	772,0
69685	34 G 1,5	16	25,3	489,0	988,0
69686	41 G 1,5	16	27,0	590,0	1158,0
69687	50 G 1,5	16	29,4	720,0	1352,0
69688	61 G 1,5	16	33,2	878,0	1728,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69689	2 x 2,5	14	9,4	48,0	140,0
69690	3 G 2,5	14	9,9	72,0	165,0
69691	4 G 2,5	14	10,8	96,0	203,0
69692	5 G 2,5	14	11,8	120,0	241,0
69693	7 G 2,5	14	14,7	168,0	350,0
69694	8 G 2,5	14	16,2	192,0	421,0
69695	9 G 2,5	14	16,8	216,0	455,0
69696	10 G 2,5	14	17,1	240,0	451,0
69697	12 G 2,5	14	17,7	288,0	531,0
69698	18 G 2,5	14	20,8	432,0	751,0
69699	25 G 2,5	14	25,8	600,0	1076,0
69700	3 G 4	12	11,0	115,0	220,0
69701	4 G 4	12	12,0	154,0	272,0
69702	5 G 4	12	13,2	192,0	328,0
69703	7 G 4	12	16,5	269,0	495,0
69704	9 G 4	12	19,1	346,0	636,0
69705	12 G 4	12	19,9	461,0	726,0
69706	18 G 4	12	24,1	691,0	1086,0
69707	3 G 6	10	12,5	173,0	290,0
69708	4 G 6	10	14,5	230,0	382,0
69709	5 G 6	10	15,8	288,0	470,0
69710	7 G 6	10	17,3	403,0	609,0
69711	3 G 10	8	17,2	288,0	544,0
69712	4 G 10	8	18,9	384,0	678,0
69713	5 G 10	8	20,8	480,0	817,0
69714	7 G 10	8	23,7	672,0	1110,0

Continuation

JZ-604 TC TRAY CABLE

PVC power cable, open installation TC-ER, NFPA 79, 90°C, 600 V, meter marking

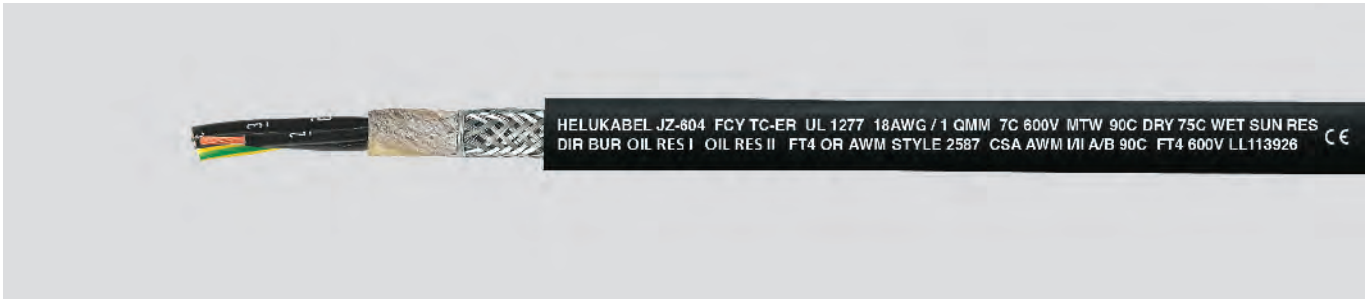
Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69715	3 G 16	6	21,0	461,0	823,0
69716	4 G 16	6	23,9	614,0	1041,0
69717	5 G 16	6	26,3	768,0	1317,0
69718	7 G 16	6	28,8	1075,0	1676,0
69719	3 G 25	4	24,9	720,0	1192,0
69720	4 G 25	4	27,4	960,0	1499,0
69721	5 G 25	4	30,3	1200,0	1846,0
69722	7 G 25	4	38,2	1680,0	2580,0
69723	3 G 35	2	27,1	1008,0	1536,0
69724	4 G 35	2	29,8	1344,0	1932,0
69725	5 G 35	2	33,0	1680,0	2386,0
69726	3 G 50	1	33,2	1440,0	2238,0
69727	4 G 50	1	36,7	1920,0	2844,0
69728	5 G 50	1	41,5	2400,0	3579,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69729	3 G 70	2/0	37,6	2016,0	2969,0
69730	4 G 70	2/0	42,0	2688,0	3837,0
69731	5 G 70	2/0	48,4	3360,0	4882,0
69732	3 G 95	3/0	41,8	2736,0	3811,0
69733	4 G 95	3/0	47,0	3648,0	4921,0
69734	5 G 95	3/0	52,5	4560,0	6140,0
69735	3 G 120	4/0	46,0	3456,0	4821,0
69736	4 G 120	4/0	51,5	4608,0	6243,0
69737	5 G 120	4/0	56,5	5760,0	7599,0
59378	4 G 150	300 kcmil	59,1	5760,0	8050,0
59379	4 G 185	350 kcmil	67,1	7104,0	9250,0

Dimensions and specifications may be changed without prior notice. (RN01)

JZ-604-FCY TC TRAY CABLE

PVC power cable, screened, open installation TC-ER, NFPA 79, 90°C, 600 V, meter marking, EMC-preferred type



Technical data

- PVC power cable, screened acc. to UL Std.1277 TRAY CABLE
- **Multinorm** also conform to the following standards: AWM-Style 2587 to UL Std.758 and CSA-Std. C22.2 No.210 I/II A/B
- **Temperature range** dry environment flexing -5°C to +90°C fixed installation -25°C to +90°C wet environment flexing -5°C to +75°C fixed installation -25°C to +75°C
- **Nominal voltage** UL 600 V
- **Test voltage** 3000 V
- **Breakdown voltage** min. 6000 V
- **Coupling resistance** max. 250 Ohm/km
- **Minimum bending radius** flexing 10x cable Ø fixed installation 4x cable Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of PVC class 12 B acc. to tab. 50.155 UL Std.1581, type TFF to UL Std.62 (AWG 20-AWG 16) type THHW to UL Std.83 (⩾ AWG 14)
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Separation foil
- Tinned copper braided screen, approx. coverage 85%
- Outer sheath of PVC acc. to UL Std.1277 tab.11.2
- Sheath colour: black (RAL 9005)
- With meter marking

Properties

- UV-resistant
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- UL OIL RES I OIL RES II
- Class 1 Div. 2 per NEC Art. 336, 392, 501

Note

- G = with GN-YE conductor x = without GN-YE conductor (OZ)
- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- Unscreened analogue type: **JZ-604 TC TRAY CABLE**

Application

USA NFPA 79 conformant flexible power cables up to 600 V, for all machinery in tool and plant constuction, suitable for installation in dry, humid and damp environments, in the open and in pipes. For underground installation and for open, unprotected installation from the cable rack to machines and industrial plants.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69750	2 x 1	18	8,6	50,0	103,0
69751	3 G 1	18	9,0	60,0	119,0
69752	4 G 1	18	9,7	71,0	139,0
69753	5 G 1	18	10,5	88,0	165,0
69754	7 G 1	18	12,2	111,0	216,0
69755	9 G 1	18	14,2	139,0	285,0
69756	10 G 1	18	15,0	150,0	311,0
69757	12 G 1	18	15,4	184,0	349,0
69758	18 G 1	18	17,8	260,0	472,0
69759	25 G 1	18	21,9	349,0	665,0
69760	34 G 1	18	24,3	486,0	886,0
69761	50 G 1	18	28,4	625,0	1164,0
69762	2 x 1,5	16	9,0	63,0	115,0
69763	3 G 1,5	16	9,4	80,0	140,0
69764	4 G 1,5	16	10,2	97,0	164,0
69765	5 G 1,5	16	11,1	119,0	195,0
69766	7 G 1,5	16	12,9	147,0	260,0
69767	8 G 1,5	16	14,0	170,0	297,0
69768	9 G 1,5	16	15,2	182,0	351,0
69769	10 G 1,5	16	15,5	193,0	360,0
69770	12 G 1,5	16	16,2	267,0	408,0
69771	16 G 1,5	16	18,1	315,0	526,0
69772	18 G 1,5	16	18,9	374,0	571,0
69773	25 G 1,5	16	23,8	526,0	862,0
69774	34 G 1,5	16	25,9	629,0	1050,0
69775	41 G 1,5	16	27,6	801,0	1215,0
69776	50 G 1,5	16	30,2	885,0	1418,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69777	61 G 1,5	16	34,0	1100,0	1815,0
69778	2 x 2,5	14	10,0	96,0	148,0
69779	3 G 2,5	14	10,5	144,0	180,0
69780	4 G 2,5	14	11,4	148,0	220,0
69781	5 G 2,5	14	12,4	181,0	259,0
69782	7 G 2,5	14	15,3	255,0	379,0
69783	8 G 2,5	14	16,3	285,0	432,0
69784	9 G 2,5	14	17,6	309,0	493,0
69785	10 G 2,5	14	17,9	340,0	503,0
69786	12 G 2,5	14	18,4	441,0	560,0
69787	18 G 2,5	14	22,0	570,0	839,0
69788	25 G 2,5	14	26,6	738,0	1157,0
69789	3 G 4	12	11,6	174,0	233,0
69790	4 G 4	12	12,6	230,0	290,0
69791	5 G 4	12	14,5	273,0	362,0
69792	7 G 4	12	17,1	316,0	501,0
69793	9 G 4	12	18,4	402,0	625,0
69794	12 G 4	12	20,5	507,0	753,0
69795	18 G 4	12	24,9	751,0	1161,0
69796	3 G 6	10	13,8	240,0	327,0
69797	4 G 6	10	15,1	305,0	414,0
69798	5 G 6	10	16,4	439,0	482,0
69799	7 G 6	10	19,6	505,0	684,0
69800	3 G 10	8	17,9	350,0	549,0
69801	4 G 10	8	19,6	535,0	693,0
69802	5 G 10	8	22,5	592,0	872,0
69803	7 G 10	8	24,4	810,0	1116,0

Dimensions and specifications may be changed without prior notice. (RN01)

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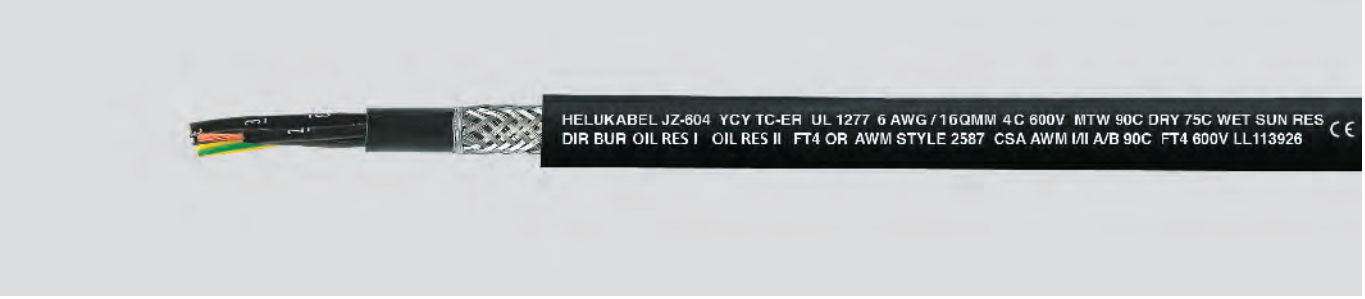
JZ-604-YCY TC TRAY CABLE

PVC power cable, screened, open installation TC-ER, NFPA 79, 90°C, 600 V, meter marking, EMC-preferred type



Technical data

- PVC power cable, screened to UL Std.1277 TRAY CABLE
- **Multinorm**
  also conforms to the following standards: AWM-Style 2587 to UL Std.758 and CSA-Std. C22.2 No.210 I/II A/B
- **Temperature range**
  dry environment
  flexing -5°C to +90°C
  fixed installation -25°C to +90°C
  wet environment
  flexing -5°C to +75°C
  fixed installation -25°C to +75°C
- **Nominal voltage**
  UL 600 V
- **Test voltage**
  3000 V
- **Breakdown voltage**
  min. 6000 V
- **Coupling resistance**
  max. 250 Ohm/km
- **Minimum bending radius**
  flexing 10x cable Ø
  fixed installation 4x cable Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of PVC class 12 B to tab.50.155 acc. to UL Std.1581 type THHW acc. to UL Std.83
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- PVC-inner sheath acc. to UL Std.1277 tab.11.2
- Tinned copper braided screen, approx. coverage 85%
- Outer sheath of PVC acc. to UL Std.1277 tab.11.2,
- Sheath colour: black (RAL 9005)
- With meter marking

Properties

- UV resistant
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Self-extinguishing and flame retardant acc. to CSA FT4
- UL OIL RES I OIL RES II
- Class 1 Div. 2 per NEC Art. 336, 392, 501

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OZ)
- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- Unscreened analogue type:
  JZ 604 TC TRAY CABLE

Application

USA NFPA 79 conformant flexible power cables up to 600 V, for all machinery in tool and plant constuction, suitable for installation in dry, humid and damp environments, in the open and in pipes. For underground installation and for open, unprotected installation from the cable rack to machines and industrial plants.

EMC = Electromagnetic compatibility
To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

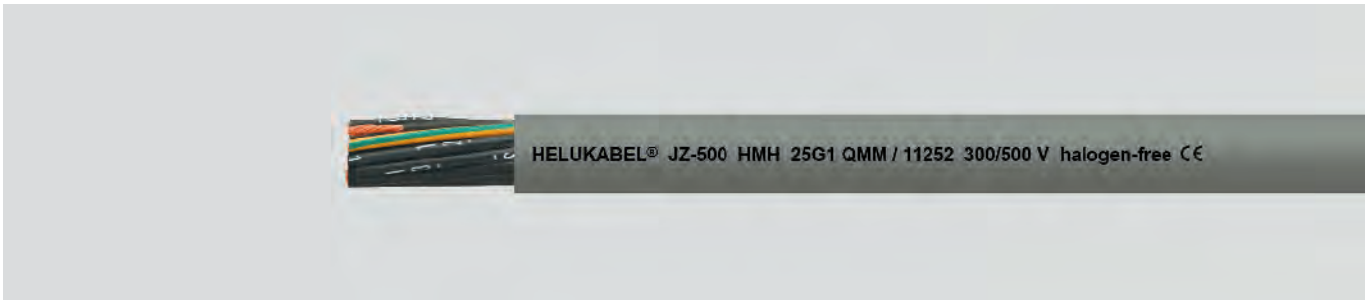
Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69804	3 G 16	6	25,2	653,0	1060,0
69805	4 G 16	6	27,8	807,0	1572,0
69806	5 G 16	6	31,2	940,0	2002,0
69807	7 G 16	6	34,5	1345,0	2604,0
69808	3 G 25	4	29,0	920,0	1955,0
69809	4 G 25	4	32,4	1169,0	2218,0
69810	5 G 25	4	36,4	1420,0	2757,0
69811	7 G 25	4	40,3	1921,0	3523,0
69812	3 G 35	2	32,4	1250,0	2289,0
69813	4 G 35	2	36,2	1680,0	2926,0
69814	5 G 35	2	40,5	2020,0	3545,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
69815	3 G 50	1	40,4	1887,0	3379,0
69816	4 G 50	1	45,5	2370,0	4439,0
69817	5 G 50	1	50,0	2880,0	5312,0
69818	3 G 70	2/0	46,7	2516,0	4557,0
69819	4 G 70	2/0	51,1	3257,0	5632,0
69820	5 G 70	2/0	56,0	4032,0	6681,0
69821	3 G 95	3/0	50,1	3086,0	5612,0
69822	4 G 95	3/0	55,0	4060,0	6820,0
69823	5 G 95	3/0	60,5	5244,0	8172,0
69824	3 G 120	4/0	54,0	4176,0	6711,0
69825	4 G 120	4/0	59,5	5231,0	8256,0
69826	5 G 120	4/0	64,5	6624,0	10233,0

Dimensions and specifications may be changed without prior notice. (RN01)

JZ-500 HMH

flexible, halogen-free, oil resistant[1)], meter marking



Technical data

- Halogen-free flexible cable adapted to DIN VDE 0285-525-2-51 / DIN EN 50525-2-51 and DIN VDE 0285-525-3-11 / DIN EN 50525-3-11
- **Temperature range** flexing -15°C to +70°C fixed installation -40°C to +70°C
- **Nominal voltage** U_0/U 300/500 V
- **Test voltage** 4000 V
- **Minimum bending radius** flexing 12,5x outer Ø fixed installation 4x outer Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of halogen-free polymer compound type TI6 acc. to DIN VDE 0207-363-7 / DIN EN 50363-7
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Outer sheath of halogen-free polymer compound type TM7 acc. to DIN VDE 0207-363-8 / DIN EN 50363-8
- Sheath colour: grey (RAL 7001)
- With meter marking
- **LS0H** = Low Smoke Zero Halogen

Properties

- [1)] For critical applications, we recommend a consultation
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame test acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2

Note

- G = with GN-YE conductor x = without GN-YE conductor (OZ)
- Please note "cleanroom qualified" when ordering.
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- Screened analogue type: **JZ-500 HMH-C**

Application

Connecting and control cable in tool machinery, conveyor belts, production lines, in plant, in air-conditioning, in foundries and steel mills. For fixed installation or flexible application, casual, not constantly recurring free movement without forced motion and without tensile stress, for medium mechanical stress. The cable is suitable for use in dry, damp and wet locations and on plaster.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
11201	2 x 0,5	4,8	9,6	43,0	20
11202	3 G 0,5	5,1	14,4	50,0	20
11332	3 x 0,5	5,1	14,4	50,0	20
11203	4 G 0,5	5,5	19,0	60,0	20
11333	4 x 0,5	5,5	19,0	60,0	20
11204	5 G 0,5	6,2	24,0	71,0	20
11334	5 x 0,5	6,2	24,0	71,0	20
11205	7 G 0,5	6,7	33,6	84,0	20
11206	8 G 0,5	7,4	38,0	101,0	20
11207	10 G 0,5	8,0	48,0	121,0	20
11208	12 G 0,5	9,0	58,0	142,0	20
11209	16 G 0,5	10,0	76,0	183,0	20

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
11210	18 G 0,5	10,7	86,0	204,0	20
11211	20 G 0,5	11,3	96,0	227,0	20
11212	25 G 0,5	12,6	120,0	283,0	20
11213	30 G 0,5	13,5	144,0	324,0	20
11214	34 G 0,5	14,7	163,0	367,0	20
11215	37 G 0,5	14,7	178,0	381,0	20
11216	41 G 0,5	15,8	197,0	417,0	20
11217	42 G 0,5	15,8	202,0	454,0	20
11218	50 G 0,5	17,3	240,0	519,0	20
11219	61 G 0,5	18,5	293,0	635,0	20
11220	65 G 0,5	19,2	312,0	694,0	20

Continuation ▶

JZ-500 HMH

flexible, halogen-free, oil resistant[1)], meter marking

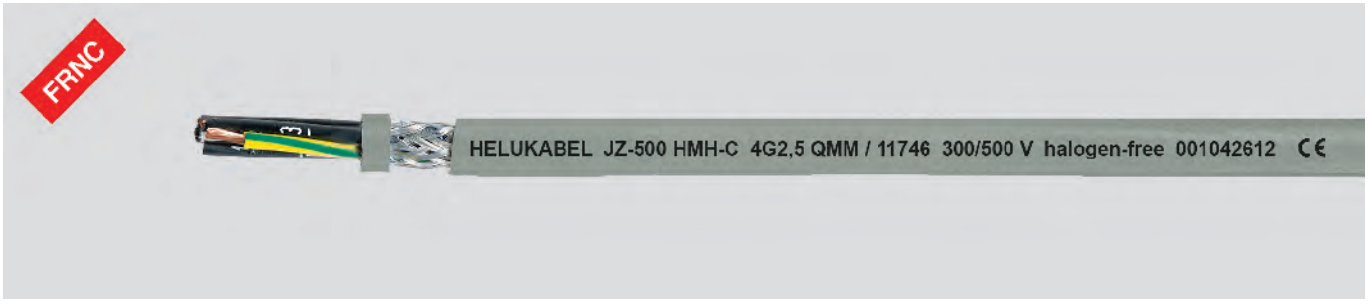
Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
11221	2 x 0,75	5,3	14,4	47,0	19
11222	3 G 0,75	5,6	21,6	56,0	19
11335	3 x 0,75	5,6	21,6	56,0	19
11223	4 G 0,75	6,3	29,0	69,0	19
11336	4 x 0,75	6,3	29,0	69,0	19
11224	5 G 0,75	6,9	36,0	83,0	19
11337	5 x 0,75	6,9	36,0	83,0	19
11225	7 G 0,75	7,7	50,0	114,0	19
11338	7 x 0,75	7,7	50,0	114,0	19
11226	8 G 0,75	8,3	58,0	136,0	19
11227	10 G 0,75	9,1	72,0	172,0	19
11228	12 G 0,75	10,0	86,0	183,0	19
11229	16 G 0,75	11,4	115,0	241,0	19
11230	18 G 0,75	12,2	130,0	266,0	19
11231	20 G 0,75	12,8	144,0	291,0	19
11232	25 G 0,75	14,3	180,0	374,0	19
11233	30 G 0,75	15,3	216,0	450,0	19
11234	34 G 0,75	16,7	245,0	517,0	19
11235	37 G 0,75	16,7	260,0	541,0	19
11236	41 G 0,75	18,1	296,0	611,0	19
11237	42 G 0,75	18,1	302,0	621,0	19
11238	50 G 0,75	19,8	360,0	742,0	19
11239	61 G 0,75	21,2	439,0	853,0	19
11240	65 G 0,75	22,0	468,0	909,0	19
11017876	100 G 0,75	26,8	720,0	1220,0	19
11241	2 x 1	5,6	19,2	63,0	18
11242	3 G 1	6,1	29,0	74,0	18
11339	3 x 1	6,1	29,0	74,0	18
11243	4 G 1	6,6	38,4	90,0	18
11340	4 x 1	6,6	38,4	90,0	18
11244	5 G 1	7,5	48,0	109,0	18
11007669	5 x 1	7,5	48,0	109,0	18
11245	7 G 1	8,1	67,0	151,0	18
11246	8 G 1	9,0	77,0	184,0	18
11247	10 G 1	9,6	96,0	224,0	18
11248	12 G 1	10,8	115,0	243,0	18
11249	16 G 1	12,3	154,0	314,0	18
11250	18 G 1	12,9	173,0	361,0	18
11251	20 G 1	13,8	192,0	387,0	18
11252	25 G 1	15,4	240,0	496,0	18
11253	34 G 1	17,9	326,0	670,0	18
11254	37 G 1	17,9	355,0	713,0	18
11255	41 G 1	19,4	394,0	784,0	18
11256	42 G 1	19,4	403,0	824,0	18
11257	50 G 1	21,3	480,0	952,0	18
11258	61 G 1	22,7	586,0	1140,0	18
11259	65 G 1	23,6	628,0	1201,0	18
11260	2 x 1,5	6,4	29,0	70,0	16
11261	3 G 1,5	6,8	43,0	94,0	16
11341	3 x 1,5	6,8	43,0	94,0	16
11262	4 G 1,5	7,6	58,0	112,0	16
11263	5 G 1,5	8,3	72,0	141,0	16
11264	7 G 1,5	9,2	101,0	191,0	16
11265	8 G 1,5	9,9	115,0	224,0	16
11266	10 G 1,5	10,9	144,0	282,0	16
11267	12 G 1,5	12,2	173,0	311,0	16
11268	16 G 1,5	13,9	230,0	392,0	16
11269	18 G 1,5	14,8	259,0	450,0	16
11270	20 G 1,5	15,6	288,0	497,0	16
11271	25 G 1,5	17,6	360,0	630,0	16
11272	34 G 1,5	20,2	490,0	842,0	16
11273	37 G 1,5	20,2	533,0	897,0	16
11274	50 G 1,5	24,2	720,0	1277,0	16
11275	61 G 1,5	25,8	878,0	1460,0	16
11276	65 G 1,5	26,7	936,0	1612,0	16

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
11277	2 x 2,5	7,8	48,0	118,0	14
11278	3 G 2,5	8,3	72,0	151,0	14
11279	4 G 2,5	9,2	96,0	181,0	14
11280	5 G 2,5	10,1	120,0	224,0	14
11281	7 G 2,5	11,2	168,0	316,0	14
11282	8 G 2,5	12,3	192,0	370,0	14
11283	10 G 2,5	13,5	240,0	451,0	14
11284	12 G 2,5	15,1	288,0	499,0	14
11285	16 G 2,5	17,1	384,0	720,0	14
11286	18 G 2,5	18,2	432,0	769,0	14
11287	20 G 2,5	19,4	480,0	911,0	14
11288	25 G 2,5	21,6	600,0	1047,0	14
11289	30 G 2,5	23,0	720,0	1280,0	14
11290	2 x 4	9,2	77,0	199,0	12
11291	3 G 4	9,7	115,0	247,0	12
11292	4 G 4	10,8	154,0	299,0	12
11293	5 G 4	12,1	192,0	369,0	12
11294	7 G 4	13,4	269,0	463,0	12
11295	8 G 4	14,7	307,0	601,0	12
11296	10 G 4	15,8	384,0	698,0	12
11297	12 G 4	18,0	461,0	790,0	12
11298	16 G 4	20,5	614,0	1130,0	12
11299	18 G 4	21,6	691,0	1280,0	12
11300	2 x 6	11,0	115,0	266,0	10
11301	3 G 6	11,9	173,0	360,0	10
11302	4 G 6	13,0	230,0	429,0	10
11303	5 G 6	14,7	288,0	529,0	10
11304	7 G 6	16,2	403,0	631,0	10
11305	2 x 10	13,8	192,0	440,0	8
11306	3 G 10	14,8	288,0	550,0	8
11307	4 G 10	16,4	384,0	708,0	8
11308	5 G 10	18,3	480,0	862,0	8
11309	7 G 10	20,2	672,0	1124,0	8
11310	2 x 16	17,6	307,0	642,0	6
11311	3 G 16	18,6	461,0	830,0	6
11312	4 G 16	20,6	614,0	1060,0	6
11313	5 G 16	22,8	768,0	1270,0	6
11314	7 G 16	25,2	1075,0	1794,0	6
11315	3 G 25	22,6	720,0	1190,0	4
11316	4 G 25	25,1	960,0	1594,0	4
11317	5 G 25	27,9	1200,0	2014,0	4
11318	3 G 35	26,0	1008,0	1590,0	2
11319	4 G 35	28,8	1344,0	2200,0	2
11320	5 G 35	32,3	1680,0	2693,0	2
11321	3 G 50	30,9	1440,0	2571,0	1
11322	4 G 50	34,2	1920,0	3087,0	1
11328	4 G 95	46,0	3648,0	5590,0	3/0
11323	5 G 50	38,3	2400,0	3980,0	1
11324	3 G 70	36,0	2016,0	3207,0	2/0
11325	4 G 70	40,0	2688,0	4077,0	2/0
11326	5 G 70	44,7	3360,0	5501,0	2/0
11327	3 G 95	41,5	2736,0	4708,0	3/0
11329	5 G 95	51,5	4560,0	6972,0	3/0
11330	3 G 120	46,0	3456,0	5515,0	4/0
11331	4 G 120	51,1	4608,0	7100,0	4/0

Dimensions and specifications may be changed without prior notice. (RA03)

JZ-500 HMH-C

flexible control cable, halogen-free, extremely fire resistant, oil resistant[1)], screened, meter marking, EMC-preferred type



Technical data

- Halogen-free flexible cable adapted to DIN VDE 0285-525-2-51 / DIN EN 50525-2-51 and DIN VDE 0285-525-3-11 / DIN EN 50525-3-11
- **Temperature range**
  flexing -15°C to +70°C
  fixed installation -40°C to +70°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  core/core 4000 V
  core/screen 2000 V
- **Coupling resistance**
  max. 250 Ohm/km
- **Minimum bending radius**
  flexing 12,5x outer Ø
  fixed installation 4x outer Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of halogen-free polymer compound type TI6 acc. to DIN VDE 0207-363-7 / DIN EN 50363-7
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Foil wrapping
- Tinned copper braided screen, approx. 85% coverage
- Outer sheath of halogen-free polymer compound type TM7 acc. to DIN VDE 0207-363-8 / DIN EN 50363-8
- Sheath colour: grey (RAL 7001)
- With meter marking
- **LS0H** = Low Smoke Zero Halogen

Properties

- [1)] For critical applications, we recommend a consultation
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame test acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OZ)
- Cleanroom qualification tested with analog type. Please note "cleanroom qualified" when ordering.
- The conductor is metrically constructed (mm^2). The AWG designation is approximate and purely informative.
- Unscreened analogue type: **JZ-500 HMH**

Application

Connecting and control cables in tooling machinery, conveyor and transportation belts, production lines, in plant construction, air-conditioning systems as well as in iron and steel works. For fixed installation or for flexing applications, for casual, not constantly recurring free movement without forced motion and without tensile stress for medium mechanical loads. The cable is suitable for use in dry, damp and wet environments and on plaster. An interference-free transmission of signals and pulse in assured by the high degree of screening.
EMC = Electromagnetic compatibility
To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
11656	2 x 0,5	5,7	35,0	46,0	20
11657	3 G 0,5	5,9	42,0	56,0	20
11342	3 x 0,5	5,9	42,0	56,0	20
11658	4 G 0,5	6,4	47,0	62,0	20
11343	4 x 0,5	6,4	47,0	62,0	20

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
11659	5 G 0,5	6,9	56,0	75,0	20
11660	7 G 0,5	7,6	69,0	98,0	20
11017510	8 x 0,5	8,1	80,0	115,0	20
11663	12 G 0,5	9,7	108,0	158,0	20
11665	18 G 0,5	11,5	145,0	216,0	20
11667	25 G 0,5	13,7	240,0	315,0	20

Continuation ▸

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JZ-500 HMH-C

flexible control cable, halogen-free, extremely fire resistant, oil resistant[1)], screened, meter marking, EMC-preferred type

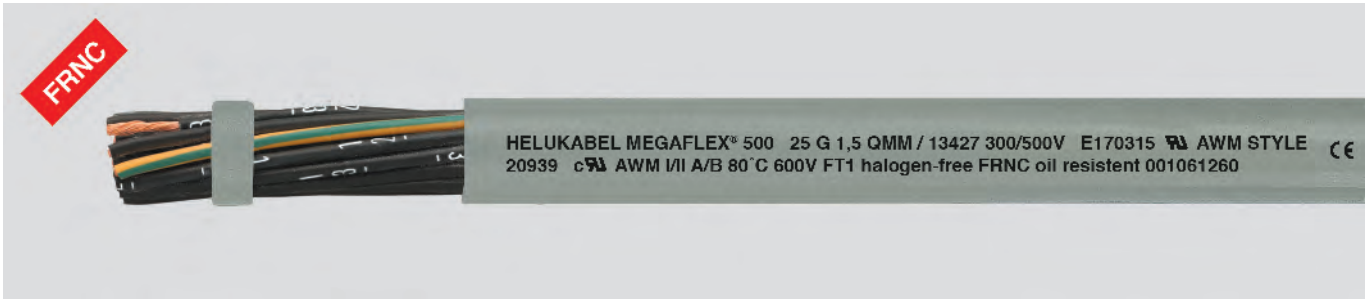
Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
11678	2 x 0,75	6,1	40,0	60,0	19
11679	3 G 0,75	6,3	52,0	68,0	19
11344	3 x 0,75	6,3	52,0	68,0	19
11680	4 G 0,75	6,8	60,0	78,0	19
11345	4 x 0,75	6,8	60,0	78,0	19
11681	5 G 0,75	7,4	71,0	95,0	19
11346	5 x 0,75	7,4	71,0	95,0	19
11682	7 G 0,75	8,2	91,0	130,0	19
11347	7 x 0,75	8,2	91,0	130,0	19
11685	12 G 0,75	10,5	142,0	203,0	19
11687	18 G 0,75	12,7	212,0	290,0	19
11689	25 G 0,75	15,0	281,0	413,0	19
11700	2 x 1	6,4	50,0	66,0	18
11701	3 G 1	6,7	60,0	80,0	18
11348	3 x 1	6,7	60,0	80,0	18
11702	4 G 1	7,2	71,0	100,0	18
11349	4 x 1	7,2	71,0	100,0	18
11703	5 G 1	8,0	88,0	130,0	18
11704	7 G 1	8,7	111,0	160,0	18
11707	12 G 1	11,4	184,0	260,0	18
11709	18 G 1	13,6	260,0	382,0	18
11711	25 G 1	16,2	349,0	540,0	18
11722	2 x 1,5	7,0	63,0	88,0	16
11723	3 G 1,5	7,4	80,0	100,0	16
11350	3 x 1,5	7,4	80,0	100,0	16
11724	4 G 1,5	8,1	97,0	125,0	16
11725	5 G 1,5	9,0	119,0	158,0	16
11726	7 G 1,5	9,8	147,0	210,0	16
11729	12 G 1,5	12,8	267,0	340,0	16
11731	18 G 1,5	15,6	374,0	480,0	16
11733	25 G 1,5	18,4	526,0	702,0	16
11744	2 x 2,5	8,4	96,0	132,0	14
11745	3 G 2,5	8,8	144,0	168,0	14
11746	4 G 2,5	9,8	148,0	195,0	14
11747	5 G 2,5	10,8	181,0	222,0	14
11748	7 G 2,5	11,9	255,0	345,0	14
11751	12 G 2,5	15,8	441,0	572,0	14

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
11766	2 x 4	10,0	120,0	184,0	12
11768	3 G 4	10,6	174,0	238,0	12
11769	4 G 4	11,6	230,0	305,0	12
11770	5 G 4	12,8	273,0	388,0	12
11771	7 G 4	14,2	316,0	504,0	12
11781	2 x 6	11,7	173,0	270,0	10
11782	3 G 6	12,5	240,0	328,0	10
11783	4 G 6	13,8	305,0	416,0	10
11784	5 G 6	15,4	439,0	510,0	10
11785	7 G 6	17,0	505,0	670,0	10
11786	2 x 10	14,5	255,0	420,0	8
11787	3 G 10	15,6	350,0	495,0	8
11788	4 G 10	17,2	535,0	785,0	8
11789	5 G 10	19,1	592,0	855,0	8
11790	7 G 10	21,2	810,0	1308,0	8
11793	4 G 16	20,3	740,0	882,0	6
11794	5 G 16	22,2	895,0	1293,0	6
11812	7 G 16	24,8	1282,0	2149,0	6
11795	3 G 25	22,5	1070,0	1432,0	4
11796	4 G 25	25,0	1140,0	1911,0	4
11797	5 G 25	27,5	1380,0	2414,0	4
11798	3 G 35	25,7	1240,0	1914,0	2
11799	4 G 35	28,5	1576,0	2542,0	2
11800	5 G 35	31,7	1930,0	3180,0	2
11801	3 G 50	30,8	1675,0	3080,0	1
11802	4 G 50	34,1	2155,0	3550,0	1
11803	5 G 50	38,1	2794,0	4753,0	1
11804	3 G 70	36,0	2288,0	3840,0	2/0
11805	4 G 70	40,0	3120,0	4939,0	2/0
11806	5 G 70	44,5	3705,0	6572,0	2/0
11807	3 G 95	41,1	3010,0	5651,0	3/0
11808	4 G 95	45,6	4043,0	6690,0	3/0
11809	5 G 95	50,7	5026,0	8370,0	3/0
11810	3 G 120	45,2	3812,0	6342,0	4/0
11811	4 G 120	50,1	5069,0	8453,0	4/0
11813	4 G 185	63,0	8040,0	10800,0	350 kcmil

Dimensions and specifications may be changed without prior notice. (RA03)

MEGAFLEX® 500

halogen-free, flame retardant, oil resistant, UV resistant, flexible, meter marking



Technical data

- Halogen-free flexible cable adapted to DIN VDE 0285-525-3-11 / DIN EN 50525-3-11, to UL Style 20939, UL Std.758
- **Temperature range** flexing -30°C to +80°C fixed installation -40°C to +80°C
- **Nominal voltage** U_0/U 300/500 V UL/CSA 600 V
- **Test voltage** 3000 V
- **Minimum bending radius** flexing 10x outer Ø fixed installation 4x outer Ø
- **Flexibility** Alternate bending test acc. to DIN VDE 0473-396 / DIN EN 50396

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of halogen-free special polymer
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Outer sheath of halogen-free special polymer
- Sheath colour: grey (RAL 7001)
- With meter marking
- **LS0H** = Low Smoke Zero Halogen

Note

- G = with GN-YE conductor x = without GN-YE conductor (OZ)
- The conductor is metrically constructed (mm^2). The AWG designation is approximate and purely informative.
- Screened analogue type: **MEGAFLEX® 500-C**

Properties

- Highly flame retardant
- Resistant to oils and greases
- Resistant to UV and weathering
- Hydrolysis resistant
- Flexible, abrasion- and wear-resistant
- Ozone-resistant
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame test acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 / CSA FT1
- Toxicity of combustion gases acc. to NF X 70-100
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- Oil resistant acc. to DIN VDE 0473-811-404/DIN EN 60811-404
- Hydrolysis resistant acc. to DIN EN 61234-1
- Ozone resistant acc. to DIN VDE 0473-811-403/DIN EN 60811-403

Application

For fixed installation or flexible applications with non-recurring free movement, without forced movement control and without tensile load. Can withstand severe mechanical stress in dry or damp/ wet rooms and outdoors. Can be used as a connecting and control cable in: machine and plant construction, HVAC technology, warehousing and materials handling technology, shipbuilding, the renewable energy sector such as wind turbine construction, and more.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
13344	2 x 0,5	20	5,0	9,6	43,0
13345	3 G 0,5	20	5,3	14,4	50,0
13346	3 x 0,5	20	5,3	14,4	50,0
13347	4 G 0,5	20	5,7	19,0	60,0
13348	4 x 0,5	20	5,7	19,0	60,0
13349	5 G 0,5	20	6,2	24,0	71,0
13350	5 x 0,5	20	6,2	24,0	71,0
13351	7 G 0,5	20	7,4	33,6	84,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
13352	8 G 0,5	20	8,0	38,0	101,0
13353	10 G 0,5	20	8,8	48,0	121,0
13354	12 G 0,5	20	9,1	58,0	142,0
13355	16 G 0,5	20	10,0	76,0	183,0
13356	18 G 0,5	20	10,7	86,0	204,0
13357	20 G 0,5	20	11,2	96,0	227,0
13359	25 G 0,5	20	12,7	120,0	283,0
13360	30 G 0,5	20	13,5	144,0	324,0

Continuation ▸

MEGAFLEX® 500

halogen-free, flame retardant, oil resistant, UV resistant, flexible, meter marking

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
13361	34 G 0,5	20	14,5	163,0	367,0
13362	37 G 0,5	20	14,5	178,0	381,0
13363	41 G 0,5	20	15,8	197,0	417,0
13364	42 G 0,5	20	15,8	202,0	454,0
13365	50 G 0,5	20	17,3	240,0	519,0
13366	61 G 0,5	20	18,5	293,0	635,0
13367	65 G 0,5	20	19,4	312,0	694,0
13368	2 x 0,75	19	5,4	14,4	47,0
13369	3 G 0,75	19	5,7	21,6	56,0
13370	3 x 0,75	19	5,7	21,6	56,0
13371	4 G 0,75	19	6,2	29,0	69,0
13372	4 x 0,75	19	6,2	29,0	69,0
13373	5 G 0,75	19	6,8	36,0	83,0
13374	5 x 0,75	19	6,8	36,0	83,0
13375	7 G 0,75	19	8,1	50,0	114,0
13376	7 x 0,75	19	8,1	50,0	114,0
13377	8 G 0,75	19	8,9	58,0	136,0
13378	10 G 0,75	19	9,6	72,0	172,0
13379	12 G 0,75	19	9,9	86,0	183,0
13380	16 G 0,75	19	11,2	115,0	241,0
13381	18 G 0,75	19	11,9	130,0	266,0
13382	20 G 0,75	19	12,6	144,0	291,0
13383	25 G 0,75	19	14,1	180,0	374,0
13384	30 G 0,75	19	15,4	216,0	450,0
13385	34 G 0,75	19	16,4	245,0	517,0
13386	37 G 0,75	19	16,4	260,0	541,0
13387	41 G 0,75	19	17,6	296,0	611,0
13388	42 G 0,75	19	17,6	302,0	621,0
13389	50 G 0,75	19	19,8	360,0	742,0
13390	61 G 0,75	19	20,9	439,0	853,0
13392	65 G 0,75	19	21,8	468,0	909,0
13393	2 x 1	18	5,7	19,2	63,0
13394	3 G 1	18	6,0	29,0	74,0
13395	3 x 1	18	6,0	29,0	74,0
13396	4 G 1	18	6,6	38,4	90,0
13397	4 x 1	18	6,6	38,4	90,0
13398	5 G 1	18	7,2	48,0	109,0
13399	7 G 1	18	8,6	67,0	151,0
13400	8 G 1	18	9,4	77,0	184,0
13401	10 G 1	18	10,4	96,0	224,0
13402	12 G 1	18	10,7	115,0	243,0
13403	16 G 1	18	12,0	154,0	314,0
13404	18 G 1	18	12,7	173,0	361,0
13405	20 G 1	18	13,5	192,0	387,0
13406	25 G 1	18	15,2	240,0	496,0
13407	34 G 1	18	17,4	326,0	670,0
13408	37 G 1	18	17,4	355,0	713,0
13409	41 G 1	18	18,9	394,0	784,0
13410	42 G 1	18	18,9	403,0	824,0
13411	50 G 1	18	21,0	480,0	952,0
13412	61 G 1	18	22,2	586,0	1140,0
13413	65 G 1	18	23,2	628,0	1201,0
13414	2 x 1,5	16	6,3	29,0	70,0
13415	3 G 1,5	16	6,6	43,0	94,0
13416	3 x 1,5	16	6,6	43,0	94,0
13417	4 G 1,5	16	7,2	58,0	112,0
13418	5 G 1,5	16	7,9	72,0	141,0
13419	7 G 1,5	16	9,5	101,0	191,0
13420	8 G 1,5	16	10,4	115,0	224,0
13421	10 G 1,5	16	11,3	144,0	282,0
13422	12 G 1,5	16	11,7	173,0	311,0
13423	16 G 1,5	16	13,3	230,0	392,0
13425	18 G 1,5	16	14,0	259,0	450,0
13426	20 G 1,5	16	14,9	288,0	497,0
13427	25 G 1,5	16	16,8	360,0	630,0
13428	34 G 1,5	16	19,4	490,0	842,0
13429	37 G 1,5	16	19,4	533,0	897,0
13430	50 G 1,5	16	23,4	720,0	1277,0
13431	61 G 1,5	16	24,8	878,0	1460,0
13432	65 G 1,5	16	25,8	936,0	1612,0
13433	2 x 2,5	14	7,6	48,0	118,0
13434	3 G 2,5	14	8,3	72,0	151,0
13435	4 G 2,5	14	9,1	96,0	181,0
13436	5 G 2,5	14	10,2	120,0	224,0
13437	7 G 2,5	14	12,1	168,0	316,0
13438	8 G 2,5	14	13,2	192,0	370,0
13439	10 G 2,5	14	14,6	240,0	451,0
13440	12 G 2,5	14	15,2	288,0	499,0
13441	16 G 2,5	14	16,8	384,0	720,0
13442	18 G 2,5	14	18,1	432,0	769,0
13443	20 G 2,5	14	19,0	480,0	911,0
13444	25 G 2,5	14	22,2	600,0	1047,0
13445	30 G 2,5	14	22,9	720,0	1280,0
13446	2 x 4	12	9,2	77,0	199,0
13447	3 G 4	12	9,9	115,0	247,0
13448	4 G 4	12	11,0	154,0	299,0
13449	5 G 4	12	12,1	192,0	369,0
13450	7 G 4	12	13,3	269,0	463,0
13451	8 G 4	12	15,9	307,0	601,0
13452	10 G 4	12	17,3	384,0	698,0
13453	12 G 4	12	18,3	461,0	790,0
13454	16 G 4	12	20,2	614,0	1130,0
13455	18 G 4	12	21,8	691,0	1280,0
13456	2 x 6	10	10,8	115,0	266,0
13457	3 G 6	10	11,7	173,0	360,0
13458	4 G 6	10	13,0	230,0	429,0
13459	5 G 6	10	14,5	288,0	529,0
13460	7 G 6	10	16,0	403,0	631,0
13461	2 x 10	8	14,0	192,0	440,0
13462	3 G 10	8	15,0	288,0	550,0
13463	4 G 10	8	16,8	384,0	708,0
13464	5 G 10	8	18,7	480,0	862,0
13465	7 G 10	8	20,6	672,0	1124,0
13466	2 x 16	6	16,5	307,0	642,0
13467	3 G 16	6	17,6	461,0	830,0
13468	4 G 16	6	19,7	641,0	1060,0
13469	5 G 16	6	21,9	768,0	1270,0
13470	7 G 16	6	24,4	1075,0	1794,0
13471	3 G 25	4	22,5	720,0	1190,0
13472	4 G 25	4	25,2	960,0	1594,0
13473	5 G 25	4	27,9	1200,0	2014,0
13474	3 G 35	2	26,3	1008,0	1590,0
13475	4 G 35	2	28,5	1344,0	2200,0
13476	5 G 35	2	31,2	1680,0	2693,0
13477	3 G 50	1	30,2	1440,0	2571,0
13478	4 G 50	1	34,0	1920,0	3087,0
13479	5 G 50	1	37,8	2400,0	3980,0
13480	3 G 70	2/0	37,0	2016,0	3207,0
13481	4 G 70	2/0	41,5	2688,0	4077,0
13482	5 G 70	2/0	46,2	3360,0	5501,0
13483	3 G 95	3/0	41,4	2736,0	4708,0
13484	4 G 95	3/0	46,2	3648,0	5590,0
13485	5 G 95	3/0	51,5	4560,0	6972,0
13486	3 G 120	4/0	45,7	3456,0	5515,0
13487	4 G 120	4/0	51,2	4608,0	7100,0
13488	3 G 150	300 kcmil	52,8	4320,0	6279,0
13489	4 G 150	300 kcmil	58,3	5760,0	7781,0

Dimensions and specifications may be changed without prior notice. (RA03)

MEGAFLEX® 500-C

halogen-free, flame retardant, oil resistant, UV resistant, flexible, screened, meter marking, EMC-preferred types

Technical data

- Halogen-free flexible cable adapted to DIN VDE 0285-525-3-11 / DIN EN 50525-3-11, to UL Style 20939, UL Std.758
- **Temperature range** flexing -30°C to +80°C fixed installation -40°C to +80°C
- **Nominal voltage** U_0/U 300/500 V UL/CSA 600 V
- **Test voltage** 3000 V
- **Coupling resistance** max. 250 Ohm/km
- **Minimum bending radius** flexing 10x outer Ø fixed installation 4x outer Ø
- **Flexibility** Alternate bending test acc. to DIN VDE 0473-396 / DIN EN 50396

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of halogen-free special polymer
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Foil wrapping
- Tinned copper braided screen, approx. 85% coverage
- Outer sheath of halogen-free special polymer
- Sheath colour: grey (RAL 7001)
- With meter marking
- **LS0H** = Low Smoke Zero Halogen

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OZ)
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- Unscreened analogue type: **MEGAFLEX® 500**

Properties

- Halogen-free
- Highly flame retardant
- Resistant to oils and greases
- Resistant to UV and weathering
- Flexible, abrasion and wear resistant
- Ozone resistant
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame test acc. to DIN VDE 0482-332-3-24 / DIN EN 60332-3-24 / IEC 60332-3-24
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 / CSA FT1
- Toxicity of combustion gases acc. to NF X 70-100
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- Oil resistant acc. to DIN VDE 0473-811-404/DIN EN 60811-404
- Hydrolysis resistant acc. to DIN EN 61234-1
- Ozone resistant acc. to DIN VDE 0473-811-403/DIN EN 60811-403

Application

For fixed installation or flexible applications with non-recurring free movement, without forced movement control and without tensile load. Can withstand severe mechanical stress in dry or damp/ wet rooms and outdoors. Can be used as a connecting and control cable in: machine and plant construction, HVAC technology, warehousing and materials handling technology, shipbuilding, the renewable energy sector such as wind turbine construction, and more.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
13500	2 x 0,5	20	5,7	35,0	46,0
13501	3 G 0,5	20	6,0	42,0	56,0
13502	3 x 0,5	20	6,0	42,0	56,0
13503	4 G 0,5	20	6,5	47,0	62,0
13504	4 x 0,5	20	6,5	47,0	62,0
13505	5 G 0,5	20	7,0	56,0	75,0
13506	5 x 0,5	20	7,0	56,0	75,0
13507	7 G 0,5	20	7,9	69,0	98,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
13508	8 G 0,5	20	8,5	80,0	116,0
13509	10 G 0,5	20	9,3	94,0	135,0
13510	12 G 0,5	20	9,6	108,0	158,0
13511	16 G 0,5	20	10,7	129,0	210,0
13512	18 G 0,5	20	11,2	145,0	216,0
13514	20 G 0,5	20	11,9	172,0	240,0
13515	25 G 0,5	20	13,4	240,0	315,0

Continuation ▸

MEGAFLEX® 500-C

halogen-free, flame retardant, oil resistant, UV resistant, flexible, screened, meter marking, EMC-preferred types

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
13516	2 x 0,75	19	6,1	40,0	60,0
13517	3 G 0,75	19	6,4	52,0	68,0
13518	3 x 0,75	19	6,4	52,0	68,0
13519	4 G 0,75	19	6,9	60,0	78,0
13520	4 x 0,75	19	6,9	60,0	78,0
13521	5 G 0,75	19	7,4	71,0	95,0
13522	5 x 0,75	19	7,4	71,0	95,0
13523	7 G 0,75	19	8,6	91,0	130,0
13524	7 x 0,75	19	8,6	91,0	130,0
13525	8 G 0,75	19	9,4	110,0	145,0
13526	10 G 0,75	19	10,2	137,0	180,0
13527	12 G 0,75	19	10,4	142,0	203,0
13528	16 G 0,75	19	11,6	200,0	275,0
13529	18 G 0,75	19	12,4	212,0	290,0
13530	20 G 0,75	19	12,9	238,0	320,0
13531	25 G 0,75	19	14,8	281,0	413,0
13532	2 x 1	18	6,4	50,0	66,0
13533	3 G 1	18	6,7	60,0	80,0
13534	3 x 1	18	6,7	60,0	80,0
13535	4 G 1	18	7,3	71,0	100,0
13536	4 x 1	18	7,3	71,0	100,0
13537	5 G 1	18	7,8	88,0	130,0
13538	7 G 1	18	9,1	111,0	160,0
13539	8 G 1	18	9,9	127,0	197,0
13540	10 G 1	18	10,8	150,0	232,0
13541	12 G 1	18	11,2	184,0	260,0
13542	16 G 1	18	12,3	209,0	346,0
13543	18 G 1	18	13,2	260,0	382,0
13544	20 G 1	18	13,8	317,0	440,0
13545	25 G 1	18	15,8	349,0	540,0
13546	2 x 1,5	16	7,0	63,0	88,0
13547	3 G 1,5	16	7,3	80,0	100,0
13548	3 x 1,5	16	7,3	80,0	100,0
13549	4 G 1,5	16	7,9	97,0	125,0
13550	5 G 1,5	16	8,6	119,0	158,0
13552	7 G 1,5	16	10,2	147,0	210,0
13554	8 G 1,5	16	11,1	170,0	244,0
13556	10 G 1,5	16	12,0	193,0	315,0
13557	12 G 1,5	16	12,5	267,0	340,0
13558	16 G 1,5	16	13,8	315,0	424,0
13559	18 G 1,5	16	15,0	374,0	480,0
13560	20 G 1,5	16	15,7	396,0	545,0
13561	25 G 1,5	16	18,0	526,0	702,0
13562	2 x 2,5	14	8,3	96,0	132,0
13563	3 G 2,5	14	9,0	144,0	168,0
13565	4 G 2,5	14	9,8	148,0	195,0
13566	5 G 2,5	14	10,9	181,0	256,0
13567	7 G 2,5	14	12,9	255,0	345,0
13568	8 G 2,5	17	13,8	285,0	390,0
13569	10 G 2,5	14	15,8	340,0	482,0
13570	12 G 2,5	14	15,9	441,0	572,0
13571	2 x 4	12	9,8	120,0	220,0
13572	3 G 4	12	10,6	174,0	251,0
13573	4 G 4	12	11,5	230,0	305,0
13574	5 G 4	12	12,7	273,0	388,0
13575	7 G 4	12	13,9	316,0	504,0
13576	2 x 6	10	11,5	173,0	270,0
13577	3 G 6	10	12,4	240,0	351,0
13578	4 G 6	10	13,8	305,0	464,0
13579	5 G 6	10	15,7	439,0	546,0
13580	7 G 6	10	16,6	505,0	670,0
13581	2 x 10	8	14,9	255,0	461,0
13582	3 G 10	8	15,9	350,0	574,0
13583	4 G 10	8	17,8	535,0	785,0
13584	5 G 10	8	19,6	592,0	914,0
13585	7 G 10	8	21,6	810,0	1308,0
13586	2 x 16	6	17,3	422,0	670,0
13587	3 G 16	6	18,5	585,0	911,0
13588	4 G 16	6	20,8	740,0	1105,0
13589	5 G 16	6	22,9	895,0	1293,0
13590	7 G 16	6	25,0	1282,0	2149,0
13591	4 G 25	4	26,2	1140,0	1911,0
13592	4 G 35	2	30,4	1576,0	2542,0
13593	4 G 50	1	34,6	2155,0	3550,0
13594	4 G 70	2/0	41,3	3120,0	4939,0
13595	4 G 95	3/0	46,2	4043,0	6690,0
13596	4 G 120	4/0	51,0	5069,0	8453,0
13597	4 G 150	300 kcmil	59,0	5792,0	9104,0

Dimensions and specifications may be changed without prior notice. (RA03)

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DATA AND COMPUTER CABLES

TRONIC (LiYY)

flexible, colour coded to DIN 47100, meter marking

Technical data

- Special-PVC data cables adapted to DIN VDE 0812
- **Temperature range**
  flexing -5°C to +80°C
  fixed installation -40°C to +80°C
- **Operating peak voltage**
  (not for heavy current installation purposes)
  0,14 mm² 350 V
  ⩾ 0,25 mm² 500 V
- **Test voltage**
  up to 0,25 mm² 1200 V
  from 0,34 mm² 2000 V
- **Breakdown voltage**
  up to 0,25 mm² 2400 V
  from 0,34 mm² 4000 V
- **Mutual capacitance** at 800 Hz
  0,14 mm² approx. 120 pF/m
  0,25 mm² approx. 150 pF/m
- **Inductance**
  approx. 0,65 mH/km
- **Impedance**
  approx. 78 Ohm
- **Minimum bending radius**
  flexing 7,5x outer Ø
  fixed installation 4x outer Ø

Cable structure

- Bare copper conductor,
  from 0,5 mm² fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Conductor construction:
  0,14 mm² approx. 18x0,1 mm
  0,25 mm² approx. 14x0,15 mm
  0,34 mm² = 7x0,25 mm
- Core insulation of special PVC compound type TI2 to DIN VDE 0207-363-3 / DIN EN 50363-3
- Core identification adapted to DIN 47100, without colour repetition
- Cores stranded in layers with optimal lay length
- Outer sheath of special PVC compound type TM2 to DIN VDE 0207-363-4-1/DIN EN 50363-4-1
- Sheath colour: grey (RAL 7001)
- With meter marking

Properties

- Extensively oil resistant, oil-/chemical resistance see "Technical Information"
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- PVC self-extinguishing and flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

Note

- Also available in paired version, see HELUKABEL®-PAAR-TRONIC
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- Screened analogue type:
  TRONIC-CY (LiY-CY)

Application

These cables are used for flexible use with free movement without tensile stress or forced movements in dry, moist and wet rooms but not suitable for open air, wherever the construction requirements call for a minimum outer diameter, TRONIC is the suitable cable to use. This applies especially to such areas as tool making and machine industries as well as electronic, computer, measurement and control sectors.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
18001	2 x 0,14	3,5	2,7	13,0	26
18002	3 x 0,14	3,7	4,0	16,0	26
18003	4 x 0,14	3,9	5,4	19,0	26
18004	5 x 0,14	4,3	6,7	22,0	26
18005	6 x 0,14	4,6	8,1	25,0	26
18006	7 x 0,14	4,6	9,4	28,0	26
18007	8 x 0,14	5,5	10,7	35,0	26
18008	10 x 0,14	5,9	13,4	41,0	26
18009	12 x 0,14	6,1	16,1	48,0	26
18010	14 x 0,14	6,3	18,8	53,0	26
18011	16 x 0,14	6,9	21,5	59,0	26
18012	18 x 0,14	7,2	24,2	65,0	26
18013	20 x 0,14	7,5	26,9	70,0	26
18014	21 x 0,14	7,6	28,2	77,0	26
18015	24 x 0,14	8,5	32,3	87,0	26
18117	25 x 0,14	8,6	33,6	91,0	26
18016	27 x 0,14	8,7	36,3	97,0	26
18017	30 x 0,14	8,9	40,3	108,0	26
18018	32 x 0,14	9,3	43,0	114,0	26
18019	36 x 0,14	9,8	48,4	126,0	26
18020	40 x 0,14	10,4	54,0	139,0	26
18021	42 x 0,14	10,5	56,0	146,0	26
18022	44 x 0,14	11,1	59,0	153,0	26
18023	48 x 0,14	11,2	65,0	164,0	26
18024	52 x 0,14	11,5	70,0	173,0	26
18025	56 x 0,14	11,8	75,0	187,0	26
18026	61 x 0,14	12,1	82,0	204,0	26

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
18029	2 x 0,25	3,8	4,8	18,0	24
18030	3 x 0,25	4,0	7,2	22,0	24
18031	4 x 0,25	4,3	9,6	26,0	24
18032	5 x 0,25	4,7	12,0	30,0	24
18033	6 x 0,25	5,3	14,4	36,0	24
18034	7 x 0,25	5,3	16,8	42,0	24
18035	8 x 0,25	6,1	19,2	49,0	24
18036	10 x 0,25	6,8	24,0	57,0	24
18037	12 x 0,25	7,0	28,8	66,0	24
18038	14 x 0,25	7,3	33,6	75,0	24
18039	16 x 0,25	7,7	38,4	84,0	24
18040	18 x 0,25	8,3	43,2	72,0	24
18114	19 x 0,25	8,3	46,0	84,0	24
18041	20 x 0,25	8,7	48,0	101,0	24
18042	21 x 0,25	8,8	50,0	107,0	24
18043	24 x 0,25	9,8	60,0	120,0	24
18118	25 x 0,25	10,0	61,0	132,0	24
18044	27 x 0,25	10,1	65,0	140,0	24
18045	30 x 0,25	10,3	72,0	156,0	24
18046	32 x 0,25	10,7	77,0	164,0	24
18047	36 x 0,25	11,3	86,0	182,0	24
18115	37 x 0,25	11,3	89,0	190,0	24
18048	40 x 0,25	12,1	96,0	200,0	24
18049	42 x 0,25	12,2	101,0	211,0	24
18050	44 x 0,25	12,8	106,0	225,0	24
18051	48 x 0,25	13,0	115,0	245,0	24
18052	52 x 0,25	13,3	125,0	263,0	24
18053	56 x 0,25	13,9	134,0	280,0	24
18054	61 x 0,25	14,3	146,0	305,0	24

Continuation ▸

TRONIC (LiYY)

flexible, colour coded to DIN 47100, meter marking

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
18057	2 x 0,34	4,2	6,5	22,0	22
18058	3 x 0,34	4,4	9,8	30,0	22
18059	4 x 0,34	4,8	13,1	43,0	22
18060	5 x 0,34	5,4	16,3	54,0	22
18061	6 x 0,34	5,9	19,6	58,0	22
18062	7 x 0,34	5,9	22,8	61,0	22
18063	8 x 0,34	7,1	26,1	73,0	22
18064	10 x 0,34	7,6	32,6	82,0	22
18065	12 x 0,34	7,8	39,2	102,0	22
18066	14 x 0,34	8,4	45,7	108,0	22
18067	16 x 0,34	8,8	52,0	126,0	22
18068	18 x 0,34	9,3	59,0	143,0	22
18069	20 x 0,34	10,0	65,0	160,0	22
18070	21 x 0,34	10,1	69,0	166,0	22
18071	24 x 0,34	11,2	78,0	186,0	22
18096	25 x 0,34	11,4	82,0	192,0	22
18072	27 x 0,34	11,5	88,0	206,0	22
18073	30 x 0,34	11,8	98,0	226,0	22
18074	32 x 0,34	12,3	104,0	245,0	22
18075	36 x 0,34	12,9	118,0	285,0	22
18116	37 x 0,34	12,9	121,0	292,0	22
18076	40 x 0,34	14,0	131,0	318,0	22
18077	42 x 0,34	14,1	137,0	330,0	22
18078	44 x 0,34	14,6	144,0	370,0	22
18079	48 x 0,34	14,7	157,0	405,0	22
18080	52 x 0,34	15,4	170,0	430,0	22
18081	53 x 0,34	15,8	183,0	440,0	22
18082	61 x 0,34	16,3	199,0	610,0	22

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
18085	2 x 0,5	4,6	9,6	40,0	20
18086	3 x 0,5	4,9	14,4	46,0	20
18087	4 x 0,5	5,5	19,2	55,0	20
18088	5 x 0,5	6,0	24,0	64,0	20
18089	6 x 0,5	6,7	28,8	73,0	20
18090	7 x 0,5	6,7	33,6	81,0	20
18091	8 x 0,5	7,8	38,4	97,0	20
18092	10 x 0,5	8,6	48,0	116,0	20
18093	12 x 0,5	8,7	58,0	135,0	20
18103	16 x 0,5	10,0	77,0	168,0	20
18101	20 x 0,5	11,3	96,0	213,0	20
18094	24 x 0,5	12,7	116,0	241,0	20
18102	30 x 0,5	13,4	144,0	303,0	20
18095	40 x 0,5	15,8	192,0	391,0	20
18104	2 x 0,75	5,3	14,4	47,0	19
18097	3 x 0,75	5,6	21,6	54,0	19
18098	4 x 0,75	6,1	29,0	66,0	19
18099	5 x 0,75	6,9	36,0	80,0	19
18100	7 x 0,75	7,5	50,0	110,0	19
18105	8 x 0,75	8,9	58,0	125,0	19
18106	10 x 0,75	9,2	72,0	148,0	19
18107	12 x 0,75	9,8	86,0	176,0	19
18108	16 x 0,75	11,4	115,0	220,0	19
18109	20 x 0,75	12,7	144,0	276,0	19
18110	2 x 1	5,6	19,2	56,0	18
18111	3 x 1	5,9	29,0	71,0	18
18112	2 x 1,5	6,3	29,0	75,0	16
18113	3 x 1,5	6,8	43,0	90,0	16

Dimensions and specifications may be changed without prior notice. (RB01)

TRONIC-CY (LiY-CY)

flexible, colour coded to DIN 47100, screened, meter marking, EMC-preferred type

Technical data

- Special-PVC data cable adapted to DIN VDE 0812
- **Temperature range**
  flexing -5°C to +80°C
  fixed installation -40°C to +80°C
- **Operating peak voltage**
  (not for heavy current installation purposes)
  0,14 mm² 350 V
  ⩾ 0,25 mm² 500 V
- **Test voltage**
  core/core 1200 V
  core/screen 800 V
- **Breakdown voltage**
  min. 2400 V
- **Mutual capacitance** at 800 Hz
  core/core 0,14 mm² app. 120 pF/m
  core/core 0,25 mm² app. 150 pF/m
  core/screen 0,14 mm² app. 240 pF/m
  core/screen 0,25 mm² app. 270 pF/m
- **Inductance**
  approx. 0,65 mH/km
- **Impedance**
  approx. 78 Ohm
- **Coupling resistance**
  max. 250 Ohm/km
- **Minimum bending radius**
  flexing 10x outer Ø
  fixed installation 5x outer Ø

Cable structure

- Bare copper conductor, from 0,5 mm² fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Conductor construction:
  0,14 mm² approx. 18x0,1 mm
  0,25 mm² approx. 14x0,15 mm
  0,34 mm² = 7x0,25 mm
- Core insulation of special PVC compound type TI2 to DIN VDE 0207-363-3 / DIN EN 50363-3
- Core identification adapted to DIN 47100, without colour repetition
- Cores stranded in layers with optimal lay length
- Foil wrapping
- Drain-wire, tinned
- Tinned, copper braided screen, approx. 85% coverage
- Outer sheath of special PVC compound type TM2 to DIN VDE 0207-363-4-1/DIN EN 50363-4-1
- Sheath colour: grey (RAL 7001)
- With meter marking

Properties

- Extensively oil resistant, oil-/chemical resistance see "Technical Information"
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- PVC self-extinguishing and flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

Note

- Also available in paired version, see HELUKABEL®-PAAR-TRONIC-CY
- For 1 core cable screen of helically wound (LiY-DY).
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- Unscreened analogue type: **TRONIC (LiYY)**

Application

These screened cables are used for flexible use with free movement without tensile stress or forced movements in dry, moist and wet rooms but not suitable for open air, wherever the construction requirements call for a minimum outer diameter, TRONIC is the suitable cable to use. This applies especially to such areas as tool making and machine industries as well as electronic, computer, measurement and control sectors. The extremely small outer diameter make suitable for miniature plugs etc.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
20139	1 x 0,14	2,6	6,1	16,0	26
20001	2 x 0,14	3,9	12,0	20,0	26
20002	3 x 0,14	4,0	13,0	27,0	26
20003	4 x 0,14	4,3	14,5	32,0	26
20004	5 x 0,14	4,7	15,5	37,0	26
20005	6 x 0,14	5,2	18,2	42,0	26
20006	7 x 0,14	5,2	19,0	48,0	26
20007	8 x 0,14	5,9	21,3	55,0	26
20008	10 x 0,14	6,5	28,7	65,0	26
20009	12 x 0,14	6,7	30,5	77,0	26
20010	14 x 0,14	6,9	32,0	79,0	26
20011	16 x 0,14	7,3	43,2	89,0	26
20012	18 x 0,14	7,6	51,0	103,0	26
20013	20 x 0,14	8,3	55,0	116,0	26

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
20014	21 x 0,14	8,4	56,0	120,0	26
20015	24 x 0,14	8,9	62,0	131,0	26
20091	25 x 0,14	9,1	61,0	136,0	26
20016	27 x 0,14	9,2	65,0	142,0	26
20017	30 x 0,14	9,5	69,0	157,0	26
20018	32 x 0,14	9,9	76,0	163,0	26
20019	36 x 0,14	10,2	83,0	182,0	26
20020	40 x 0,14	11,1	88,0	209,0	26
20021	42 x 0,14	11,2	94,0	217,0	26
20022	44 x 0,14	11,5	110,0	226,0	26
20023	48 x 0,14	11,7	115,0	240,0	26
20024	52 x 0,14	12,3	124,0	270,0	26
20025	56 x 0,14	12,5	132,0	320,0	26
20026	61 x 0,14	12,8	146,0	370,0	26

Continuation ▸

TRONIC-CY (LiY-CY)

flexible, colour coded to DIN 47100, screened, meter marking, EMC-preferred type

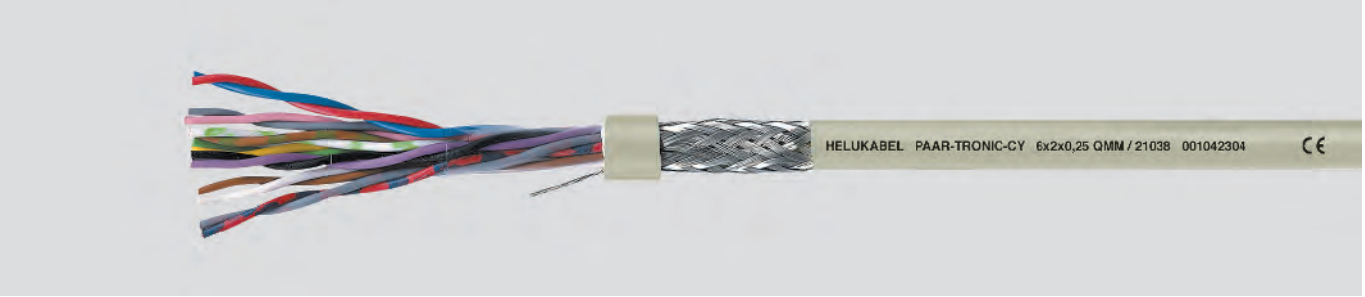
Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
20084	1 x 0,25	3,0	7,2	27,0	24
20029	2 x 0,25	4,3	15,8	31,0	24
20030	3 x 0,25	4,5	18,6	36,0	24
20031	4 x 0,25	4,8	22,0	40,0	24
20032	5 x 0,25	5,4	26,5	51,0	24
20083	6 x 0,25	5,8	32,4	58,0	24
20033	7 x 0,25	5,8	35,0	64,0	24
20034	8 x 0,25	7,0	42,1	82,0	24
20035	10 x 0,25	7,3	49,9	85,0	24
20036	12 x 0,25	7,5	58,0	90,0	24
20037	14 x 0,25	8,1	62,0	98,0	24
20038	16 x 0,25	8,5	67,0	110,0	24
20039	18 x 0,25	9,1	78,0	142,0	24
20086	19 x 0,25	9,1	79,0	146,0	24
20040	20 x 0,25	9,5	88,0	152,0	24
20041	21 x 0,25	9,6	91,0	150,0	24
20042	24 x 0,25	10,4	96,0	163,0	24
20092	25 x 0,25	10,6	99,0	169,0	24
20043	27 x 0,25	10,7	122,0	176,0	24
20044	30 x 0,25	11,1	132,0	189,0	24
20045	32 x 0,25	11,5	138,0	204,0	24
20046	36 x 0,25	11,9	146,0	219,0	24
20087	37 x 0,25	11,9	152,0	230,0	24
20047	40 x 0,25	12,9	157,0	247,0	24
20048	42 x 0,25	13,0	160,0	269,0	24
20049	44 x 0,25	13,7	162,0	292,0	24
20050	48 x 0,25	13,9	168,0	317,0	24
20051	52 x 0,25	14,3	175,0	330,0	24
20052	56 x 0,25	14,7	189,0	343,0	24
20053	61 x 0,25	15,2	204,0	365,0	24
20088	1 x 0,34	3,2	13,5	24,0	22
20056	2 x 0,34	4,9	18,0	30,0	22
20057	3 x 0,34	5,1	22,0	37,0	22
20058	4 x 0,34	5,5	28,0	48,0	22
20059	5 x 0,34	6,0	31,0	54,0	22
20085	6 x 0,34	6,6	45,0	61,0	22
20060	7 x 0,34	6,6	51,0	67,0	22
20061	8 x 0,34	7,7	54,0	81,0	22
20062	10 x 0,34	8,4	65,0	103,0	22
20063	12 x 0,34	8,6	70,0	110,0	22
20064	14 x 0,34	9,0	81,0	153,0	22
20065	16 x 0,34	9,6	88,0	159,0	22
20066	18 x 0,34	10,1	103,0	172,0	22
20089	19 x 0,34	10,1	106,0	181,0	22
20067	20 x 0,34	10,8	112,0	191,0	22
20068	21 x 0,34	10,9	116,0	199,0	22
20069	24 x 0,34	11,7	129,0	229,0	22
20093	25 x 0,34	12,0	120,0	241,0	22
20070	27 x 0,34	12,1	138,0	258,0	22
20071	30 x 0,34	12,6	158,0	290,0	22
20072	32 x 0,34	13,0	163,0	305,0	22
20073	36 x 0,34	13,8	178,0	330,0	22
20090	37 x 0,34	13,8	192,0	348,0	22
20074	40 x 0,34	14,8	198,0	364,0	22
20075	42 x 0,34	14,9	203,0	389,0	22
20076	44 x 0,34	15,6	214,0	414,0	22
20077	48 x 0,34	15,8	227,0	420,0	22
20078	52 x 0,34	16,3	242,0	450,0	22
20079	56 x 0,34	16,8	267,0	480,0	22
20080	61 x 0,34	17,2	295,0	520,0	22
16001	1 x 0,5	3,5	15,0	40,0	20
16002	2 x 0,5	5,3	29,0	45,0	20
16003	3 x 0,5	5,6	39,0	55,0	20
16004	4 x 0,5	6,3	46,0	61,0	20
16005	5 x 0,5	6,8	52,0	76,0	20
16006	6 x 0,5	7,3	66,0	89,0	20
16007	7 x 0,5	7,3	68,0	98,0	20
16008	8 x 0,5	8,6	80,0	117,0	20
16009	10 x 0,5	9,4	93,0	135,0	20
16010	12 x 0,5	9,6	117,0	157,0	20
16011	14 x 0,5	10,1	122,0	190,0	20

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
16012	16 x 0,5	10,6	129,0	210,0	20
16013	18 x 0,5	11,3	152,0	217,0	20
16526	19 x 0,5	11,3	156,0	246,0	20
16014	20 x 0,5	12,0	173,0	275,0	20
16015	24 x 0,5	13,2	236,0	337,0	20
16016	25 x 0,5	13,7	250,0	351,0	20
16527	27 x 0,5	13,8	265,0	373,0	20
16017	30 x 0,5	14,2	297,0	396,0	20
16018	32 x 0,5	14,7	301,0	431,0	20
16164	34 x 0,5	15,4	312,0	440,0	20
16019	36 x 0,5	15,5	320,0	445,0	20
16528	37 x 0,5	15,5	325,0	458,0	20
16020	40 x 0,5	16,4	345,0	470,0	20
16021	50 x 0,5	18,2	407,0	570,0	20
16022	61 x 0,5	19,2	508,0	650,0	20
16025	1 x 0,75	4,0	19,0	41,0	19
16026	2 x 0,75	5,8	38,0	59,0	19
16027	3 x 0,75	6,3	50,0	66,0	19
16028	4 x 0,75	6,8	57,0	77,0	19
16029	5 x 0,75	7,4	70,0	93,0	19
16030	6 x 0,75	8,2	87,0	113,0	19
16031	7 x 0,75	8,2	96,0	130,0	19
16032	8 x 0,75	9,7	110,0	145,0	19
16033	10 x 0,75	10,3	140,0	180,0	19
16034	12 x 0,75	10,5	151,0	202,0	19
16035	14 x 0,75	11,3	167,0	225,0	19
16036	16 x 0,75	11,9	183,0	275,0	19
16037	18 x 0,75	12,7	207,0	292,0	19
16529	19 x 0,75	12,7	221,0	322,0	19
16038	20 x 0,75	13,6	238,0	362,0	19
16039	24 x 0,75	14,9	270,0	435,0	19
16040	25 x 0,75	15,0	278,0	415,0	19
16041	27 x 0,75	15,1	287,0	467,0	19
16042	30 x 0,75	16,0	315,0	486,0	19
16043	32 x 0,75	16,5	330,0	530,0	19
16163	34 x 0,75	17,1	350,0	570,0	19
16044	36 x 0,75	17,4	370,0	600,0	19
16530	37 x 0,75	17,4	386,0	640,0	19
16045	40 x 0,75	18,7	395,0	680,0	19
16120	42 x 0,75	18,9	408,0	714,0	19
16047	61 x 0,75	22,0	555,0	900,0	19
16475	2 x 1	6,4	46,0	65,0	18
16476	3 x 1	6,7	56,0	80,0	18
16477	4 x 1	7,2	69,0	98,0	18
16478	5 x 1	8,0	89,0	127,0	18
16479	6 x 1	8,7	105,0	144,0	18
16480	7 x 1	8,7	111,0	158,0	18
16481	8 x 1	10,3	130,0	197,0	18
16482	10 x 1	11,2	140,0	232,0	18
16483	12 x 1	11,4	168,0	260,0	18
16484	14 x 1	12,0	198,0	302,0	18
16485	16 x 1	12,8	218,0	346,0	18
16486	19 x 1	13,6	268,0	412,0	18
16487	24 x 1	16,0	320,0	493,0	18
16488	27 x 1	16,4	360,0	562,0	18
16489	37 x 1	18,6	485,0	790,0	18
16500	2 x 1,5	7,0	63,0	88,0	16
16501	3 x 1,5	7,4	76,0	100,0	16
16502	4 x 1,5	8,1	98,0	126,0	16
16503	5 x 1,5	9,0	116,0	160,0	16
16504	6 x 1,5	9,8	140,0	192,0	16
16505	7 x 1,5	9,8	152,0	208,0	16
16506	8 x 1,5	11,0	172,0	244,0	16
16507	10 x 1,5	12,6	193,0	315,0	16
16508	12 x 1,5	12,8	254,0	338,0	16
16509	14 x 1,5	13,5	272,0	383,0	16
16510	16 x 1,5	14,6	285,0	424,0	16
16511	19 x 1,5	15,6	387,0	506,0	16
16512	24 x 1,5	18,1	448,0	690,0	16
16513	27 x 1,5	18,7	506,0	781,0	16
16514	37 x 1,5	21,4	682,0	941,0	16

Dimensions and specifications may be changed without prior notice. (RB01)

PAAR-TRONIC-CY

flexible, screened, colour coded to DIN 47100, meter marking, EMC-preferred type



Technical data

- PVC data cables adapted to DIN VDE 0812 and 0814
- **Temperature range**
  flexing -5°C to +80°C
  fixed installation -30°C to +80°C
- **Operating peak voltage** 350 V
  (not for heavy current installation purposes)
- **Test voltage**
  core/core 1200 V
  core/screen 800 V
- **Breakdown voltage**
  min. 2400 V
- **Mutual capacitance** at 800 Hz
  core/core 0,14 mm² app. 120 pF/m
  core/core 0,25 mm² app. 150 pF/m
  core/screen 0,14 mm² app. 240 pF/m
  core/screen 0,25 mm² app. 270 pF/m
- **Inductance**
  approx. 0,65 mH/km
- **Impedance**
  approx. 78 Ohm
- **k_1-coupling**
  approx. 300 pF/100 m
- **Coupling resistance**
  max. 250 Ohm/km
- **Minimum bending radius**
  flexing 10x outer Ø
  fixed installation 5x outer Ø

Cable structure

- Bare copper conductor,
  from 0,5 mm² fine wire acc. to
  DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Conductor construction:
  0,14 mm² approx. 18x0,1 mm
  0,25 mm² approx. 14x0,15 mm
  0,34 mm² = 7x0,25 mm
- Core insulation of PVC
  compound type TI2 acc. to
  DIN VDE 0207-363-3 / DIN EN 50363-3
- Core identification (pair) to DIN 47100
- Cores stranded in pairs with optimal lay length
- Pairs stranded in layers with optimal lay length
- Foil wrapping
- Drain wire, tinned
- Tinned copper braided screen, approx. 85% coverage
- Outer sheath of PVC
  compound type TM2 acc. to
  DIN VDE 0207-363-4-1/DIN EN 50363-4-1
- Sheath colour: grey (RAL 7032)
- With meter marking

Properties

- Extensively oil resistant, oil-/chemical resistance see "Technical Information"
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

Note

- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- Unscreened analogue type:
  PAAR-TRONIC

Application

These data control cables are used for flexible use with free movement without tensile stress or forced movements in dry, moist and wet rooms but not suitable for open air. PAAR-TRONIC-CY is well suited for use in areas subject to signal interference. The high level of screening reduces substantially the effects of electrical disturbances from parallel running wiring etc. The twisted pairs conform favourable cross-talk attenuation values.
EMC = Electromagnetic compatibility
To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.pairs x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
21001	1 x 2 x 0,14	3,8	16,0	34,0	26
21002	2 x 2 x 0,14	5,2	18,5	40,0	26
21003	3 x 2 x 0,14	5,5	23,0	49,0	26
21004	4 x 2 x 0,14	5,9	27,0	55,0	26
21005	5 x 2 x 0,14	6,6	31,0	66,0	26

Part no.	No.pairs x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
21006	6 x 2 x 0,14	7,1	48,0	86,0	26
21007	7 x 2 x 0,14	7,1	51,0	91,0	26
21008	8 x 2 x 0,14	8,1	54,0	97,0	26
21009	10 x 2 x 0,14	9,0	59,0	109,0	26
21010	12 x 2 x 0,14	9,3	66,0	141,0	26

Continuation ▸

PAAR-TRONIC-CY

flexible, screened, colour coded to DIN 47100, meter marking, EMC-preferred type

Part no.	No.pairs x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
21011	14 x 2 x 0,14	9,7	74,0	148,0	26
21012	15 x 2 x 0,14	10,2	76,0	152,0	26
21013	16 x 2 x 0,14	10,2	79,0	155,0	26
21014	18 x 2 x 0,14	10,9	83,0	171,0	26
21015	20 x 2 x 0,14	11,4	97,0	183,0	26
21016	22 x 2 x 0,14	13,0	103,0	205,0	26
21017	24 x 2 x 0,14	13,0	111,0	228,0	26
21018	25 x 2 x 0,14	13,3	113,0	239,0	26
21019	26 x 2 x 0,14	13,3	122,0	245,0	26
21020	27 x 2 x 0,14	13,3	125,0	251,0	26
21021	28 x 2 x 0,14	13,3	128,0	258,0	26
21022	30 x 2 x 0,14	13,7	140,0	270,0	26
21023	32 x 2 x 0,14	13,9	145,0	284,0	26
21024	34 x 2 x 0,14	14,4	150,0	300,0	26
21025	36 x 2 x 0,14	14,4	156,0	316,0	26
21026	38 x 2 x 0,14	14,9	162,0	350,0	26
21027	40 x 2 x 0,14	14,9	177,0	370,0	26
21028	44 x 2 x 0,14	16,3	181,0	390,0	26
21029	46 x 2 x 0,14	16,6	195,0	430,0	26
21030	50 x 2 x 0,14	17,0	202,0	440,0	26
21031	52 x 2 x 0,14	16,8	206,0	460,0	26
21032	55 x 2 x 0,14	17,5	210,0	480,0	26
21033	1 x 2 x 0,25	4,4	15,0	45,0	24
21034	2 x 2 x 0,25	6,4	28,0	53,0	24
21035	3 x 2 x 0,25	6,8	32,0	65,0	24
21036	4 x 2 x 0,25	7,4	38,0	80,0	24
21037	5 x 2 x 0,25	8,0	55,0	98,0	24
21038	6 x 2 x 0,25	8,9	65,0	114,0	24
21039	7 x 2 x 0,25	8,9	70,0	121,0	24
21040	8 x 2 x 0,25	10,2	75,0	129,0	24
21041	10 x 2 x 0,25	11,3	110,0	157,0	24
21042	12 x 2 x 0,25	11,6	117,0	189,0	24
21043	14 x 2 x 0,25	12,2	122,0	213,0	24
21044	15 x 2 x 0,25	13,2	134,0	225,0	24
21045	16 x 2 x 0,25	13,2	143,0	237,0	24
21046	18 x 2 x 0,25	13,9	148,0	248,0	24
21047	20 x 2 x 0,25	14,5	162,0	275,0	24
21048	22 x 2 x 0,25	16,3	172,0	303,0	24
21049	24 x 2 x 0,25	16,3	223,0	330,0	24
21050	25 x 2 x 0,25	16,6	233,0	343,0	24
21051	26 x 2 x 0,25	16,6	238,0	345,0	24
21052	27 x 2 x 0,25	16,6	244,0	350,0	24
21053	28 x 2 x 0,25	16,6	249,0	360,0	24
21054	30 x 2 x 0,25	17,2	254,0	375,0	24
21055	32 x 2 x 0,25	17,7	290,0	400,0	24
21056	34 x 2 x 0,25	18,5	312,0	410,0	24
21057	36 x 2 x 0,25	18,5	322,0	420,0	24
21058	38 x 2 x 0,25	19,2	339,0	450,0	24
21059	40 x 2 x 0,25	19,2	349,0	485,0	24
21060	44 x 2 x 0,25	20,9	359,0	500,0	24
21061	46 x 2 x 0,25	21,2	398,0	540,0	24
21062	50 x 2 x 0,25	22,0	403,0	550,0	24
21063	52 x 2 x 0,25	21,6	435,0	580,0	24
21064	55 x 2 x 0,25	22,4	464,0	630,0	24
19970	1 x 2 x 0,34	4,6	16,0	58,0	22
19971	2 x 2 x 0,34	6,8	37,0	65,0	22

Part no.	No.pairs x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
19972	3 x 2 x 0,34	7,1	45,0	78,0	22
19973	4 x 2 x 0,34	7,8	54,0	90,0	22
19974	5 x 2 x 0,34	8,7	64,0	110,0	22
19975	6 x 2 x 0,34	9,4	73,0	130,0	22
19976	7 x 2 x 0,34	9,4	80,0	145,0	22
19977	8 x 2 x 0,34	11,0	88,0	150,0	22
19978	9 x 2 x 0,34	11,9	99,0	170,0	22
19979	10 x 2 x 0,34	11,9	107,0	190,0	22
19980	12 x 2 x 0,34	12,3	122,0	220,0	22
19981	14 x 2 x 0,34	13,3	138,0	245,0	22
19982	16 x 2 x 0,34	14,0	154,0	250,0	22
19983	18 x 2 x 0,34	14,7	198,0	275,0	22
19984	21 x 2 x 0,34	16,3	214,4	300,0	22
19985	25 x 2 x 0,34	17,9	238,0	400,0	22
19986	27 x 2 x 0,34	17,9	262,0	410,0	22
19987	30 x 2 x 0,34	18,7	287,0	440,0	22
19988	34 x 2 x 0,34	19,9	310,0	510,0	22
19989	37 x 2 x 0,34	19,9	369,0	550,0	22
19990	40 x 2 x 0,34	20,6	393,0	590,0	22
19991	44 x 2 x 0,34	22,4	424,0	600,0	22
19992	50 x 2 x 0,34	23,4	456,0	650,0	22
19993	52 x 2 x 0,34	23,1	488,0	680,0	22
19994	56 x 2 x 0,34	24,2	518,0	750,0	22
19995	61 x 2 x 0,34	24,9	557,0	840,0	22
17047	1 x 2 x 0,5	5,2	24,0	60,0	20
17001	2 x 2 x 0,5	7,8	54,0	89,0	20
17002	3 x 2 x 0,5	8,2	70,0	104,0	20
17003	4 x 2 x 0,5	9,2	91,0	126,0	20
17004	5 x 2 x 0,5	10,0	105,0	148,0	20
17005	6 x 2 x 0,5	11,1	120,0	171,0	20
17006	8 x 2 x 0,5	13,2	144,0	290,0	20
17007	10 x 2 x 0,5	14,4	178,0	320,0	20
17008	12 x 2 x 0,5	14,8	199,0	361,0	20
17009	16 x 2 x 0,5	16,6	254,0	421,0	20
17010	20 x 2 x 0,5	18,8	302,0	580,0	20
17011	25 x 2 x 0,5	21,4	344,0	740,0	20
17048	1 x 2 x 0,75	5,7	28,0	71,0	19
17012	2 x 2 x 0,75	8,9	58,0	105,0	19
17013	3 x 2 x 0,75	9,4	84,0	128,0	19
17014	4 x 2 x 0,75	10,2	108,0	156,0	19
17015	5 x 2 x 0,75	11,4	126,0	189,0	19
17016	6 x 2 x 0,75	12,6	146,0	216,0	19
17017	8 x 2 x 0,75	14,8	180,0	309,0	19
17018	10 x 2 x 0,75	16,3	220,0	355,0	19
17019	12 x 2 x 0,75	16,8	261,0	405,0	19
17020	16 x 2 x 0,75	19,0	328,0	565,0	19
17021	20 x 2 x 0,75	21,2	392,0	700,0	19
17022	25 x 2 x 0,75	24,6	470,0	950,0	19
17049	1 x 2 x 1	6,0	46,0	75,0	18
17050	2 x 2 x 1	9,4	82,0	116,0	18
17051	3 x 2 x 1	9,9	103,0	140,0	18
17052	4 x 2 x 1	11,0	132,0	191,0	18
17053	1 x 2 x 1,5	7,2	63,0	84,0	16
17054	2 x 2 x 1,5	11,3	111,0	122,0	16
17055	3 x 2 x 1,5	11,9	136,0	194,0	16
17056	4 x 2 x 1,5	13,5	172,0	240,0	16

Dimensions and specifications may be changed without prior notice. (RB01)

DATAFLAMM®

halogen-free, meter marking

Technical data

- Halogen-free data cable
- **Temperature range**
  flexing +5°C to +70°C
  fixed installation -40°C to +70°C
- **Operating peak voltage**
  (not for heavy current installation purposes)
  0,14 mm² 350 V
  ⩾ 0,25 mm² 500 V
- **Test voltage**
  0,14 mm² 800 V
  ⩾ 0,25 mm² 1200 V
- **Mutual capacitance** at 800 Hz
  core/core approx. 70 pF/m
- **Minimum bending radius**
  flexing 7,5x outer Ø
  fixed installation 4x outer Ø

- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.

Cable structure

- Bare copper conductor,
  from 0,5 mm² fine wire acc. to
  DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Conductor construction:
  0,14 mm² approx. 18x0,1 mm
  0,25 mm² approx. 14x0,15 mm
  0,34 mm² = 7x0,25 mm
- Core insulation of PE
  compound type LD/MD to
  DIN VDE 0819-103 / DIN EN 50290-2-23
- Core identification acc. to
  DIN 47100 without colour repetition
- Cores stranded in layers with
  optimal lay length
- Outer sheath compound type HM2
  acc. to DIN VDE 0207-24
- Sheath colour: grey (RAL 7005)
- With meter marking

Properties

- PE isolated cores guarantees
  much less capacity values
  towards PVC cores
- The materials used during manufacturing
  are cadmium-free, contain no silicone
  and are free from substances harmful
  to the wetting properties of lacquers

Tests

- Halogen-free acc. to
  DIN VDE 0482-754-1 /
  DIN EN 60754-1 / IEC 60754-1
- Corrosiveness of combustion gases
  acc. to DIN VDE 0482-754-2 /
  DIN EN 60754-2 / IEC 60754-2
- Flame retardant acc. to
  DIN VDE 0482-332-1-2 /
  DIN EN 60332-1-2 / IEC 60332-1-2
  (Outer sheath)

Note

- Screened analogue type:
  DATAFLAMM®-C

Application

DATAFLAMM® halogen-free data cables are used as connecting cable for signal, measuring, control, call-announcing and two-way intercom speaking systems, clock installations, electronic weighing equipment and electrical apparatus for office requirements. The cables are suitable for installation in dry, damp and wet environments. These cables are generally installed in telecommunication apparatus and data transmission systems in public buildings, laboratories, trading centres where the freedom from halogen in case of fire and the flame propagation must be avoided. The halogen-free thermoplastic sheath produce neither corrosive nor toxic gases.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
52300	2 x 0,14	3,2	2,6	14,0	26
52301	3 x 0,14	3,4	4,0	17,0	26
52302	4 x 0,14	3,6	5,3	19,0	26
52303	5 x 0,14	3,9	6,6	23,0	26
52304	6 x 0,14	4,2	7,9	25,0	26
52305	7 x 0,14	4,2	9,2	27,0	26
52306	8 x 0,14	4,7	10,3	30,0	26
52307	10 x 0,14	5,4	13,2	38,0	26
52308	12 x 0,14	5,6	16,0	45,0	26
52309	15 x 0,14	6,3	20,1	57,0	26
52310	18 x 0,14	6,6	23,7	65,0	26
52311	21 x 0,14	6,9	27,9	76,0	26
52312	25 x 0,14	7,8	33,4	88,0	26
52313	30 x 0,14	8,2	39,3	98,0	26
52314	34 x 0,14	9,0	45,5	111,0	26
52315	40 x 0,14	9,7	53,6	139,0	26
52316	50 x 0,14	10,6	64,9	764,0	26
52317	2 x 0,25	3,8	4,7	18,0	24
52318	3 x 0,25	4,0	7,1	21,0	24
52319	4 x 0,25	4,5	9,5	26,0	24
52320	5 x 0,25	4,9	12,0	31,0	24
52321	7 x 0,25	5,3	16,6	40,0	24
52322	10 x 0,25	6,8	24,0	56,0	24
52323	12 x 0,25	7,0	28,6	64,0	24
52324	15 x 0,25	7,9	36,0	80,0	24
52430	18 x 0,25	8,3	43,2	90,0	24
52431	21 x 0,25	8,9	50,4	105,0	24
52325	25 x 0,25	9,8	59,8	121,0	24
52326	34 x 0,25	11,3	81,3	168,0	24
52327	40 x 0,25	12,4	96,0	196,0	24
52328	2 x 0,34	4,6	6,4	25,0	22
52329	3 x 0,34	4,9	9,7	30,0	22

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
52330	4 x 0,34	5,3	13,0	35,0	22
52331	5 x 0,34	5,7	16,4	43,0	22
52332	7 x 0,34	6,4	22,7	58,0	22
52333	10 x 0,34	8,2	32,4	80,0	22
52334	12 x 0,34	8,5	39,1	91,0	22
52335	15 x 0,34	9,5	49,1	115,0	22
52336	18 x 0,34	10,0	59,1	135,0	22
52337	21 x 0,34	10,7	68,3	154,0	22
52338	25 x 0,34	12,0	81,4	180,0	22
52339	34 x 0,34	13,8	111,1	233,0	22
52340	40 x 0,34	15,1	130,5	272,0	22
52341	2 x 0,5	4,8	9,5	30,0	20
52342	3 x 0,5	5,1	14,2	36,0	20
52343	4 x 0,5	5,5	19,2	43,0	20
52344	5 x 0,5	6,2	24,0	56,0	20
52345	7 x 0,5	6,7	33,7	70,0	20
52346	10 x 0,5	8,6	48,0	101,0	20
52347	12 x 0,5	9,1	57,4	117,0	20
52348	15 x 0,5	10,0	72,0	145,0	20
52349	18 x 0,5	10,7	86,4	171,0	20
52350	21 x 0,5	11,3	101,0	197,0	20
52351	25 x 0,5	12,6	120,0	230,0	20
52352	30 x 0,5	13,5	142,6	269,0	20
52353	34 x 0,5	14,7	163,1	301,0	20
52354	40 x 0,5	15,8	192,0	365,0	20
52355	2 x 0,75	5,5	14,3	40,0	19
52356	3 x 0,75	6,0	21,5	51,0	19
52357	4 x 0,75	6,6	28,6	61,0	19
52358	5 x 0,75	7,1	36,1	76,0	19
52359	7 x 0,75	8,0	50,3	97,0	19
52360	10 x 0,75	10,4	72,0	137,0	19
52361	12 x 0,75	10,7	86,2	167,0	19

Dimensions and specifications may be changed without prior notice. (RB01)

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DATAFLAMM®-C

halogen-free, screened, meter marking, EMC-preferred type

Technical data

- Halogen-free data cable
- **Temperature range**
  flexing +5°C to +70°C
  fixed installation -40°C to +70°C
- **Operating peak voltage**
  (not for heavy current installation purposes)
  0,14 mm² 350 V
  ⩾ 0,25 mm² 500 V
- **Test voltage**
  0,14 mm² 800 V
  ⩾ 0,25 mm² 1200 V
- **Mutual capacitance** at 800 Hz
  core/core approx. 70 pF/m
- **Coupling resistance**
  max. 250 Ohm/km
- **Minimum bending radius**
  flexing 7,5x outer Ø
  fixed installation 4x outer Ø

- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.

Cable structure

- Bare copper conductor,
  from 0,5 mm² fine wire acc. to
  DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Conductor construction:
  0,14 mm² approx. 18x0,1 mm
  0,25 mm² approx. 14x0,15 mm
  0,34 mm² = 7x0,25 mm
- Core insulation of PE
  compound type LD/MD to
  DIN VDE 0819-103 / DIN EN 50290-2-23
- Core identification acc. to
  DIN 47100 without colour repetition
- Cores stranded in layers with
  optimal lay length
- Foil wrapping
- Drain wire, tinned copper
- Tinned copper braided screen,
  approx. 85% coverage
- Foil wrapping
- Outer sheath compound type HM2
  acc. to DIN VDE 0207-24
- Sheath colour: grey (RAL 7005)

Properties

- PE isolated cores guarantees
  much less capacity values
  towards PVC cores
- The materials used during manufacturing
  are cadmium-free, contain no silicone
  and are free from substances harmful
  to the wetting properties of lacquers

Tests

- Halogen-free acc. to
  DIN VDE 0482-754-1 /
  DIN EN 60754-1 / IEC 60754-1
- Corrosiveness of combustion gases
  acc. to DIN VDE 0482-754-2 /
  DIN EN 60754-2 / IEC 60754-2
- Flame retardant acc. to
  DIN VDE 0482-332-1-2 /
  DIN EN 60332-1-2 / IEC 60332-1-2
  (Outer Sheath)

Note

- Unscreened analogue type:
  DATAFLAMM®

Application

As a connecting and interconnecting cable for signaling, measuring, control and intercom purposes for the use in paging and intercom systems, clock systems, weighing equipment and office machines. The cables can be laid on plaster, in dry, damp and wet rooms. Areas of use are telecommunications and information processing systems in public buildings, laboratories, warehouses and other buildings in which the release of halogens in the event of fire must be avoided. Due to the screening without interference against foreign encoder or high-frequency signals.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
52365	2 x 0,14	3,8	12,4	21,0	26
52366	3 x 0,14	4,0	14,0	25,0	26
52367	4 x 0,14	4,3	15,8	26,0	26
52368	5 x 0,14	4,5	19,5	32,0	26
52369	7 x 0,14	5,0	23,4	39,0	26
52370	10 x 0,14	6,2	28,4	54,0	26
52371	12 x 0,14	6,3	31,4	69,0	26
52372	14 x 0,14	6,8	37,5	76,0	26
52373	16 x 0,14	7,1	43,4	82,0	26
52374	18 x 0,14	7,4	51,4	90,0	26
52375	21 x 0,14	7,7	61,8	102,0	26
52376	25 x 0,14	8,6	76,0	121,0	26
52377	30 x 0,14	9,0	92,7	146,0	26
52378	34 x 0,14	9,6	121,0	167,0	26
52379	40 x 0,14	10,4	126,1	170,0	26
52380	2 x 0,25	4,4	14,6	23,0	24
52381	3 x 0,25	4,6	17,0	28,0	24
52382	4 x 0,25	5,2	20,6	34,0	24
52384	5 x 0,25	5,7	24,7	42,0	24
52385	7 x 0,25	6,1	31,2	49,0	24
52386	10 x 0,25	7,6	42,1	81,0	24
52387	12 x 0,25	7,8	47,5	88,0	24
52388	14 x 0,25	8,3	52,7	100,0	24
52389	16 x 0,25	8,7	58,1	113,0	24
52390	18 x 0,25	9,1	78,0	126,0	24
52391	21 x 0,25	9,5	94,3	144,0	24
52392	25 x 0,25	10,6	116,5	164,0	24
52393	30 x 0,25	11,1	132,2	191,0	24
52394	34 x 0,25	12,1	144,6	214,0	24
52395	40 x 0,25	13,1	163,3	245,0	24
52396	2 x 0,34	5,2	16,9	31,0	22
52397	3 x 0,34	5,6	20,6	38,0	22

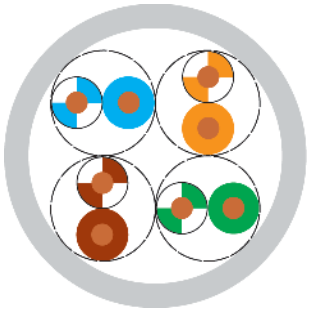
Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
52398	4 x 0,34	6,0	24,5	47,0	22
52399	5 x 0,34	6,7	30,0	58,0	22
52400	7 x 0,34	7,2	38,2	76,0	22
52401	10 x 0,34	9,0	62,2	110,0	22
52402	12 x 0,34	9,2	69,4	123,0	22
52403	14 x 0,34	9,6	82,1	140,0	22
52404	16 x 0,34	10,3	95,0	157,0	22
52405	18 x 0,34	10,8	107,3	172,0	22
52406	21 x 0,34	11,5	122,4	195,0	22
52407	25 x 0,34	12,6	142,2	226,0	22
52408	30 x 0,34	13,4	162,6	261,0	22
52409	34 x 0,34	14,4	178,9	285,0	22
52410	40 x 0,34	15,7	203,3	330,0	22
52411	2 x 0,5	5,4	23,0	37,0	20
52412	3 x 0,5	5,8	30,0	46,0	20
52413	4 x 0,5	6,3	35,3	57,0	20
52414	5 x 0,5	7,0	52,5	77,0	20
52415	7 x 0,5	7,5	65,3	92,0	20
52416	10 x 0,5	9,4	88,7	135,0	20
52417	12 x 0,5	9,6	98,7	148,0	20
52418	18 x 0,5	11,3	141,2	210,0	20
52419	21 x 0,5	12,0	161,0	242,0	20
52420	25 x 0,5	13,4	187,2	285,0	20
52421	30 x 0,5	14,1	223,2	340,0	20
52422	40 x 0,5	16,7	294,9	445,0	20
52423	2 x 0,75	6,3	30,6	45,0	19
52424	3 x 0,75	6,8	38,1	60,0	19
52425	4 x 0,75	7,3	58,0	80,0	19
52426	5 x 0,75	7,9	68,4	97,0	19
52427	7 x 0,75	8,7	88,4	127,0	19
52428	10 x 0,75	11,0	122,5	175,0	19
52429	12 x 0,75	11,5	137,2	196,0	19

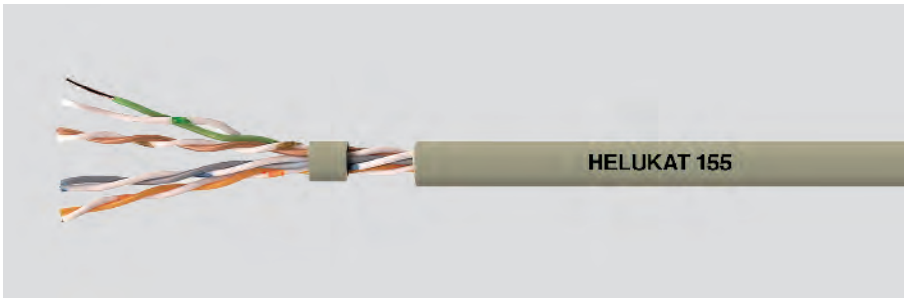
Dimensions and specifications may be changed without prior notice. (RB01)

LAN Cable

HELUKAT® 155 U/UTP 4x2xAWG 24/1 PVC

HELUKAT® 155

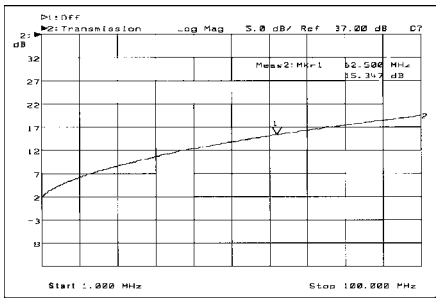




Cable structure

U/UTP 4x2xAWG 24/1 PVC

Inner conductor Ø:	0,49 mm
Conductor material:	Copper, bare
Core insulation:	PE
Core colours:	whbu/bu, whog/og, whgn/gn, whbn/bn
Separator:	-
Screen over stranding element:	-
Screen 1 over stranding:	-
Screen 2 over stranding:	-
Outer sheath material:	PVC
Outer diameter:	app. 4,9 mm
Outer sheath colour:	Grey



Electrical data

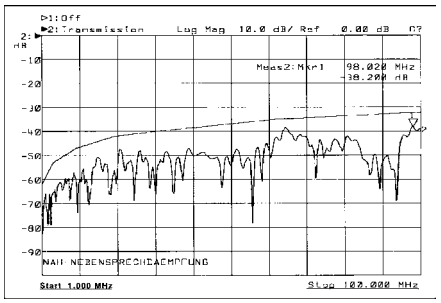
Characteristic impedance:	100 Ohm ± 15 Ohm at 1 to 100 MHz 100 Ohm ± 20 Ohm at 101 to 155 MHz
Loop resistance:	190 Ohm/km max.
Mutual capacitance:	50 nF/km nom.
Rel. propagation velocity:	66 %

Typical values

Frequency	(MHz)	10	16	62,5	100	155
Attenuation	(dB/100m)	6,3	8,0	16,5	21,3	26,8
Next	(db)	50,3	47,3	38,4	35,3	33,0
ACR	(db)	44,0	39,3	21,9	14,0	6,2

Technical data

Weight:	app. 26 kg/km
bending radius, repeated:	40 mm
Operating temperature range min.:	-20°C
Operating temperature range max.:	+60°C
Caloric load, approx. value:	0,40 MJ/m
Copper weight:	17,00 kg/km



Norms

Acc. to ISO/IEC 11801, Acc. to EN 50173, Acc. to EIA/TIA 568-A, Category 5e

Application

HELUKAT®155 data cables are used in the tertiary, but also in the secondary level of a network. They are characterized by large performance reserves and outstanding performance. They can be used to implement services such as Fast Ethernet, Ethernet, ATM155, FDDI, token ring 4/16 Mbit/s, or ISDN absolutely trouble-free. Likewise, the mechanical characteristics are perfectly suited for the application in tight cable channels and platforms due to their optimized construction.

Part no.

80053, U/UTP 4x2xAWG24/1 PVC (UTP)

Dimensions and specifications may be changed without prior notice.

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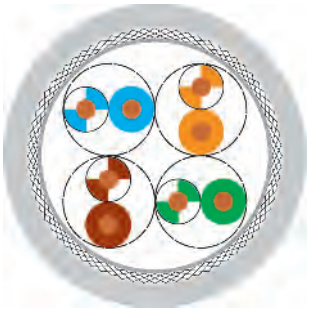
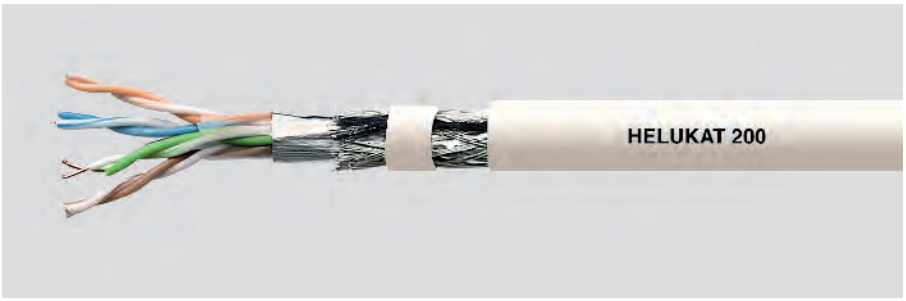
LAN Cable

HELUKAT® 200 SF/UTP 4x2xAWG 24/1 PVC + FRNC

HELUKAT® 200

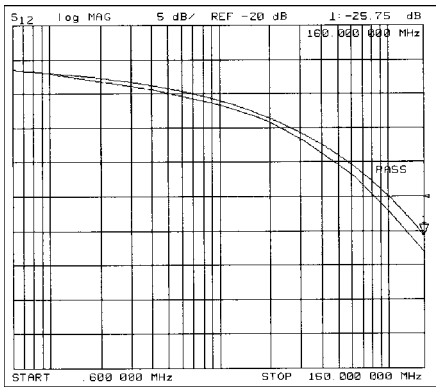




Cable structure

SF/UTP 4x2xAWG 24/1 PVC/ FRNC

Inner conductor Ø:	0,51 mm
Conductor material:	Copper, bare
Core insulation:	Foam-skin-PE
Core colours:	whbu/bu, whog/og, whgn/gn, whbn/bn
Separator:	-
Screen over stranding element:	-
Screen 1 over stranding:	Al-Foil
Screen 2 over stranding:	Cu braid
Outer sheath material:	PVC / FRNC
Outer diameter:	app. 6,0 mm / app. 6,0 mm
Outer sheath colour:	Grey similar to RAL 7035



Electrical data

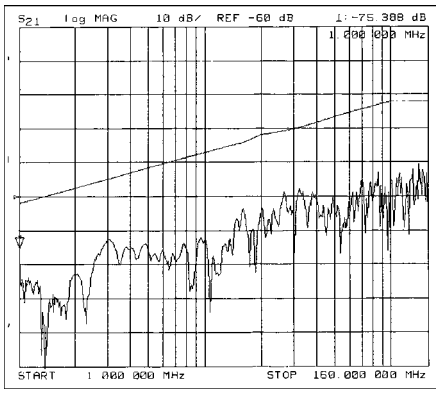
Characteristic impedance:	100 Ohm ± 15 Ohm at 1 to 100 MHz 100 Ohm ± 20 Ohm at 101 to 200 MHz
Loop resistance:	190 Ohm/km max.
Mutual capacitance:	48 nF/km nom.
Rel. propagation velocity:	67 %

Typical values

Frequency	(MHz)	10	16	62,5	100	200
Attenuation	(dB/100m)	5,6	7,2	14,4	18,2	25,9
Next	(db)	62,0	59,0	50,0	46,0	40,0
ACR	(db)	56,4	51,8	35,6	27,8	14,6

Technical data

Weight:	app. 50 kg/km
bending radius, repeated:	52 mm
Operating temperature range min.:	-20°C
Operating temperature range max.:	+60°C
Caloric load, approx. value:	0,60 MJ/m / 0,48 MJ/m
Copper weight:	28,00 kg/km



Norms

81610:
Acc. to ISO/IEC 11801, Acc. to EN 50173, Acc. to EIA/TIA 568-A, Category 5e, Flame-retardant acc. to IEC 60332-1-2
81609:
Acc. to ISO/IEC 11801, Acc. to EN 50173, Acc. to EIA/TIA 568-A, Category 5e, Flame-retardant: acc. to IEC 60332-3, Smoke density acc. to IEC 61034, Halogen-free acc. to 60754-2, Corrosiveness acc. to EN50267-2-3

Application

HELUKAT®200 data cables are used in the tertiary, but also in the secondary level of a network. They are characterized by large performance reserves and outstanding performance. They can be used to implement services such as Gigabit Ethernet, Fast Ethernet, Ethernet, ATM155, FDDI, token ring 4/16 Mbit/s, or ISDN absolutely trouble-free. Likewise, the mechanical characteristics are perfectly suited for the application in tight cable channels and platforms due to their optimized construction.

Part no.

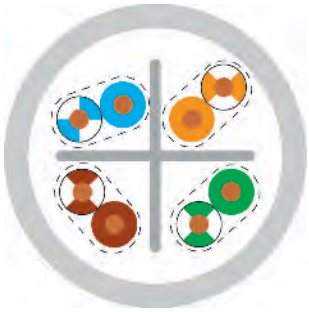
81610, SF/UTP 4x2xAWG 24/1 PVC (S-FTP) **81609,** SF/UTP 4x2xAWG 24/1 FRNC (S-FTP)

Dimensions and specifications may be changed without prior notice.

LAN Cable

HELUKAT® 300 U/UTP 4x2xAWG 24/1 PVC UL

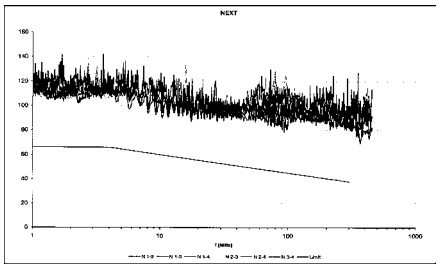
HELUKAT® 300



Cable structure

U/UTP 4x2xAWG 24/1 PVC, UL

Inner conductor Ø:	0,55 mm
Conductor material:	Copper, bare
Core insulation:	PE
Core colours:	whbu/bu, whog/og, whgn/gn, whbn/bn
Separator:	Polyester foil over stranded bundle
Screen over stranding element:	-
Screen 1 over stranding:	-
Screen 2 over stranding:	-
Outer sheath material:	PVC
Outer diameter:	app. 6,3 mm
Outer sheath colour:	Grey



Electrical data

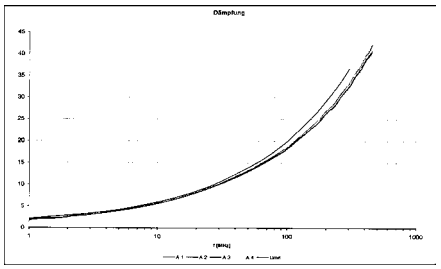
Characteristic impedance:	100 Ohm ± 15 Ohm at 1 to 100 MHz 100 Ohm ± 20 Ohm at 101 to 300 MHz
Loop resistance:	190 Ohm/km max.
Mutual capacitance:	50 nF/km nom.
Rel. propagation velocity:	67 %

Typical values

Frequency	(MHz)	10	16	62,5	100	155	200	300
Attenuation	(db/100m)	5,6	7,0	14,3	18,2	22,9	26,0	32,5
Next	(db)	72,0	70,0	65,0	63,0	60,0	57,0	55,0
ACR	(db)	66,4	63,0	50,7	44,8	37,1	31,0	22,5

Technical data

Weight:	app. 46 kg/km
bending radius, repeated:	55 mm
Operating temperature range min.:	-20°C
Operating temperature range max.:	+60°C
Caloric load, approx. value:	0,68 MJ/m
Copper weight:	20,00 kg/km



Norms

Acc. to ISO/IEC 11801, Acc. to EN 50173, Acc. to EIA/TIA 568-A, Category 6, Flame-retardant acc. to IEC 60332-1-2, Smoke density acc. to IEC 61034, CMX 444

Application

HELUKAT®300 data cables are used in the tertiary, but also in the secondary level of a network. They are characterized by large performance reserves and outstanding performance. They can be used to implement services such as Gigabit Ethernet, Fast Ethernet, Ethernet, ATM155, FDDI, token ring 4/16 Mbit/s, or ISDN absolutely trouble-free. Likewise, the mechanical characteristics are perfectly suited for the application in tight cable channels and platforms due to their optimized construction. This type is certified according UL because of the special PVC jacket

Part no.

802172, U/UTP 4x2xAWG24/1 PVC UL (UTP)

Dimensions and specifications may be changed without prior notice.

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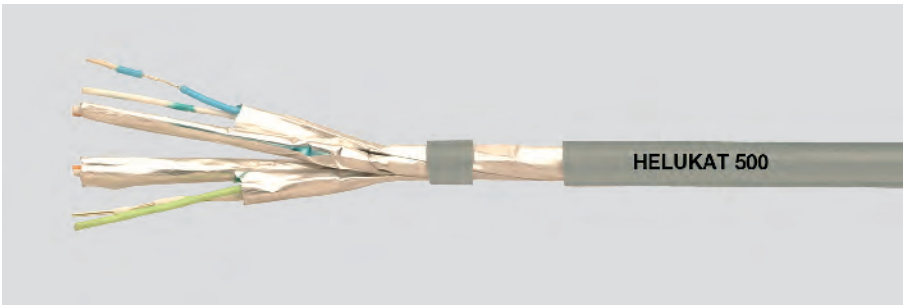
LAN Cable

HELUKAT® 500 U/FTP 4x2xAWG 26/7 FRNC

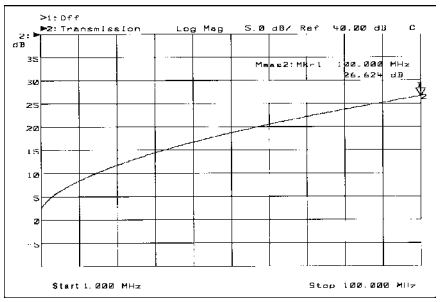
HELUKAT® 500



Cable structure

U/FTP 4x2xAWG 26/7 (stranded) LSZH

Inner conductor Ø:	0,48 mm
Conductor material:	Copper, bare
Core insulation:	Foam-skin-PE
Core colours:	wh/bu, wh/og, wh/gn, wh/bn
Separator:	-
Screen over stranding element:	Al-Foil
Screen 1 over stranding:	-
Screen 2 over stranding:	-
Drain wire:	yes
Outer sheath material:	LSZH
Outer diameter:	app. 5,8 mm
Outer sheath colour:	Grey similar to RAL 7035



Electrical data

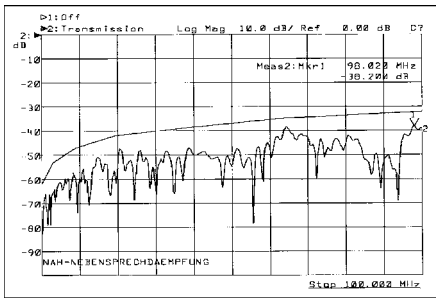
Characteristic impedance:	100 Ohm ± 15 Ohm at 1 to 100 MHz 100 Ohm ± 20 Ohm at 101 to 500 MHz
Loop resistance:	330 Ohm/km max.
Mutual capacitance:	54 nF/km nom.
Rel. propagation velocity:	78 %

Typical values

Frequency	(MHz)	10	16	62,5	100	200	250	500
Attenuation	(dB/10m)	0,8	1,1	2,1	2,7	3,9	4,4	6,3
Next	(db)	100,0	100,0	100,0	97,0	92,0	91,0	86,0
ACR	(db)	99,2	98,9	97,9	94,3	88,1	86,6	79,7

Technical data

Weight:	app. 35 kg/km
bending radius, repeated:	49 mm
Operating temperature range min.:	-20°C
Operating temperature range max.:	+60°C
Caloric load, approx. value:	0,39 MJ/m
Copper weight:	15,00 kg/km



Norms

Acc. to ISO/IEC 11801, Acc. to EN 50173, Acc. to EIA/TIA 568-A, Category 6_A, Flame-retardant acc. to IEC 60332-1-2, Smoke density acc. to IEC 61034, Halogen-free acc. to 60754-1, Corrosiveness acc. to EN50267-2-3

Application

HELUKAT® 500 data cables are used in the tertiary level of a network as patch cables and connection cables. They are characterized by large performance reserves and outstanding performance. They can be used to implement services such as 10Gigabit Ethernet, Gigabit Ethernet, Fast Ethernet, Ethernet, ATM155, FDDI, token ring 4/16 Mbit/s or ISDN absolutely trouble-free. With its optimized construction, the HELUKAT®500 series can be manufactured quickly and easily with many common RJ45 plugs.

Part no.

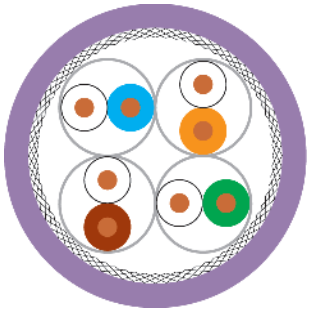
804043, U/FTP 4x2xAWG 26/7 LSZH

Dimensions and specifications may be changed without prior notice.

LAN Cable

HELUKAT® 600 S/FTP 4x2xAWG23/1 FNRC

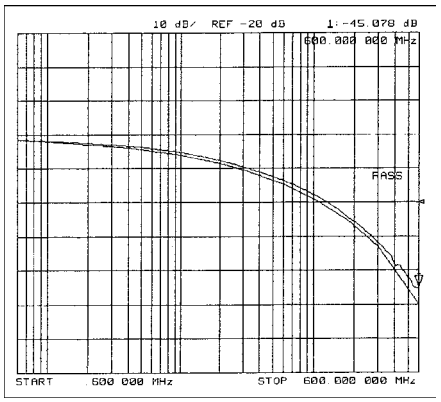
HELUKAT® 600



Cable structure

S/FTP 4x2xAWG 23/1 FRNC

Inner conductor Ø:	0,57 mm
Conductor material:	Copper, bare
Core insulation:	Foam-skin-PE
Core colours:	wh/bu, wh/og, wh/gn, wh/bn
Separator:	-
Screen over stranding element:	Al-Foil
Screen 1 over stranding:	Cu braid
Screen 2 over stranding:	-
Outer sheath material:	FRNC
Outer diameter:	app. 7,5 mm
Outer sheath colour:	Blue Lilac similar to RAL 4005



Electrical data

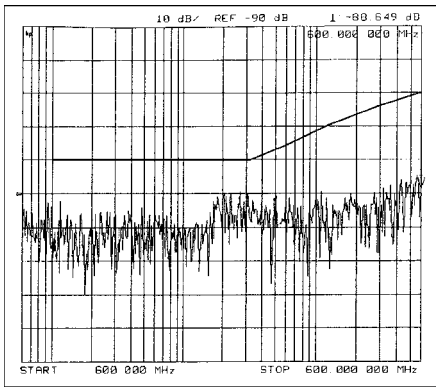
Characteristic impedance:	100 Ohm ± 15 Ohm at 1 to 100 MHz 100 Ohm ± 20 Ohm at 101 to 1000 MHz
Loop resistance:	154 Ohm/km max.
Mutual capacitance:	43 nF/km nom.
Rel. propagation velocity:	79 %

Typical values

Frequency	(MHz)	10	16	62,5	100	200	300	600	900	1000
Attenuation	(dB/100m)	5,6	7,1	13,9	17,5	25,2	32,1	44,9	55,0	58,0
Next	(db)	100,0	100,0	96,0	94,0	88,0	84,0	73,0	71,0	69,0
ACR	(db)	94,4	92,9	82,1	76,5	62,8	51,9	28,1	16,0	9,0

Technical data

Weight:	app. 60 kg/km
bending radius, repeated:	60 mm
Operating temperature range min.:	-20°C
Operating temperature range max.:	+60°C
Caloric load, approx. value:	0,60 MJ/m
Copper weight:	28,00 kg/km



Norms

Acc. to ISO/IEC 11801, Acc. to EN 50173, Acc. to EIA/TIA 568-A, Category 7e, Flame-retardant acc. to IEC 60332-3, Smoke density acc. to IEC 61034, Halogen-free acc. to 60754-2, Corrosiveness acc. to EN50267-2-3

Application

HELUKAT®600 data cables are used in the tertiary, but also in the secondary level of a network. They are characterized by large performance reserves and outstanding performance. They can be used to implement services such as Gigabit Ethernet, Fast Ethernet, Ethernet, ATM155, FDDI, token ring 4/16 Mbit/s or ISDN absolutely trouble-free. Likewise, the mechanical characteristics are perfectly suited for the application in tight cable channels and platforms due to their optimized construction.

Part no.

80810, S/FTP 4x2xAWG 23/1 FRNC (S-STP)

Dimensions and specifications may be changed without prior notice.

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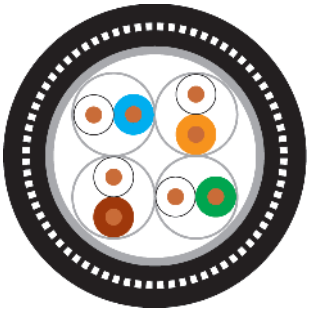
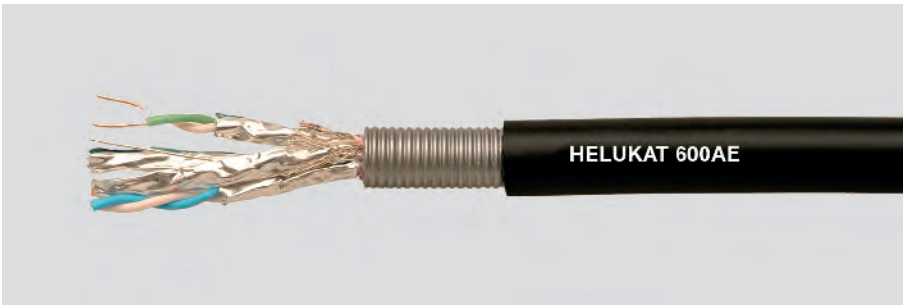
LAN Cable / armoured

HELUKAT® 600AE S/FTP 4x2xAWG23/1 FRNC/PE

HELUKAT® 600AE

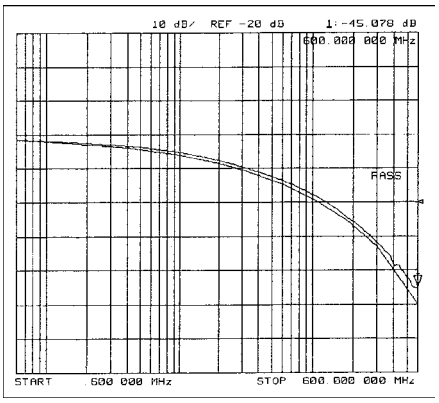




Cable structure

S/FTP 4x2xAWG 23/1 FRNC/PE

Inner conductor Ø:	0,58 mm
Conductor material:	Copper, bare
Core insulation:	Foam-skin-PE
Core colours:	wh/bu, wh/og, wh/gn, wh/bn
Separator:	-
Inner sheath material:	FRNC
Screen over stranding element:	Al-Foil
Screen 1 over stranding:	Cu braid
Screen 2 over stranding:	-
:	Steel shaft
Outer sheath material:	PE
Outer diameter:	app. 12,2 mm
Outer sheath colour:	Black



Electrical data

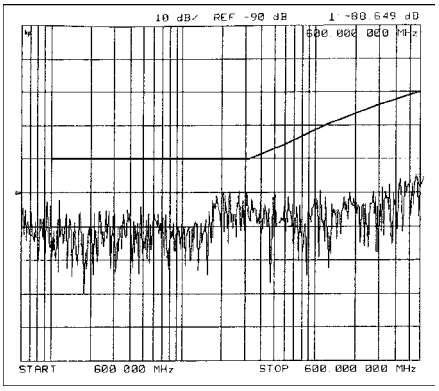
Characteristic impedance:	100 Ohm ± 15 Ohm at 1 to 100 MHz 100 Ohm ± 20 Ohm at 101 to 1000 MHz
Loop resistance:	150 Ohm/km max.
Mutual capacitance:	43 nF/km nom.
Rel. propagation velocity:	79 %

Typical values

Frequency	(MHz)	10	16	62,5	100	200	300	600	900	1000
Attenuation	(dB/100m)	5,6	7,1	13,9	17,5	25,2	32,1	44,9	55,0	58,0
Next	(db)	100,0	100,0	96,0	94,0	88,0	84,0	73,0	71,0	69,0
ACR	(db)	94,4	92,9	82,1	76,5	62,8	51,9	28,1	16,0	9,0

Technical data

Weight:	app. 155 kg/km
bending radius, repeated:	330 mm
Operating temperature range min.:	-45°C
Operating temperature range max.:	+70°C
Caloric load, approx. value:	2,30 MJ/m
Copper weight:	32,00 kg/km



Norms

Acc. to ISO/IEC 11801, Acc. to EN 50173, Acc. to EIA/TIA 568-A, Category 7e

Application

HELUKAT® 600AE data cables are used in the tertiary, but also in the secondary level of a network. They are characterized by large performance reserves and outstanding performance. They can be used to implement services such as Gigabit Ethernet, Fast Ethernet, Ethernet, ATM155, FDDI, token ring 4/16 Mbit/s or ISDN absolutely trouble-free. The series of HELUKAT® 600AE with a FRNC/PE double jacket and the rodent protection is constructed especially for outdoor and direct burial applications.

Part no.

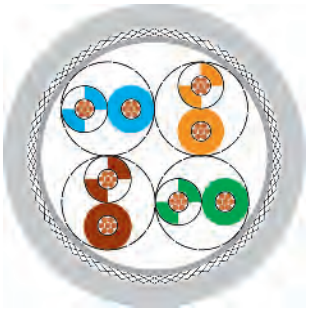
802168, S/FTP 4x2xAWG 23/1 FRNC/PE (S-STP)

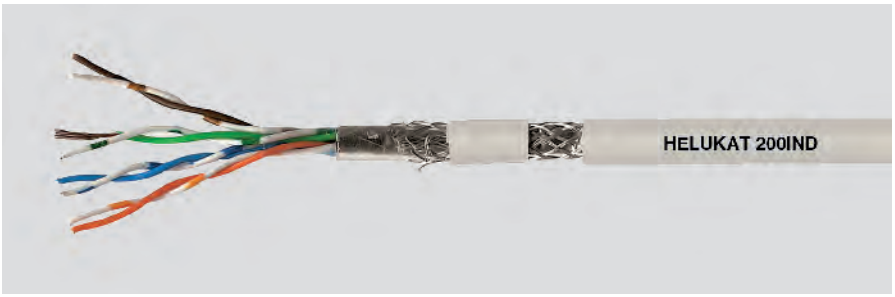
Dimensions and specifications may be changed without prior notice.

Industrial Ethernet

HELUKAT® 200IND Robustflex SF/UTP 4x2xAWG 26/7 PUR LSOH

HELUKAT® 200IND





Type
Cable structure

Industrial Patch Cables
SF/UTP 4x2xAWG 26/7 PUR

Inner conductor diameter:	Copper, bare (AWG 26/7)
Core insulation:	PO
Core colours:	whbu/bu, whog/og, whgn/gn, whbn/bn
Stranding element:	Double core
Separator:	Polyester foil over stranded bundle
Shielding 1:	-
Screen 1 over stranding:	Al-Foil
Screen 2 over stranding:	Cu braid
Outer sheath material:	PUR
Cable external diameter:	app. 5,8 mm
Outer sheath colour:	Grey similar to RAL 7035

Electrical data

Characteristic impedance:	100 Ohm ± 15 Ohm at 1 to 100 MHz 100 Ohm ± 20 Ohm at 101 to 200 MHz
Loop resistance:	260 Ohm/km max.
Mutual capacitance:	47 nF/km nom.
Relative propagation velocity:	74 %

Typical values

Frequency	(MHz)	10	16	62,5	100	200
Attenuation	(dB/10m)	0,8	1,1	2,4	2,9	4,3
Next	(db)	58,0	56,0	45,0	43,0	37,0
ACR	(db)	57,2	54,9	42,6	40,1	32,7

Technical data

Weight:	app. 44 kg/km
bending radius, repeated:	46 mm
Operating temperature range min.:	-40°C
Operating temperature range max.:	+80°C
Caloric load, approx. value:	0,54 MJ/m
Copper weight:	24,00 kg/km

Norms

Acc. to ISO/IEC 11801, Acc. to EN 50173, Acc. to EIA/TIA 568-A, Category 5e, Flame-retardant acc. to IEC 60332-1-2, Halogen-free acc. to 60754-1, Oil-resistant, AWM Style 21576 1000V

Application

HELUKAT® 200IND Category 5e Robustflex is used in harsh industrial surroundings and characterized by high reserve capacity and outstanding performance. Mechanically, the halogen-free PU outer sheath makes it ideal for harsh industrial surroundings. This cable is configurable with common RJ45 plugs (industrial and office version), as well as with various Sub-D and M12 plugs.

Part no.

800068, SF/UTP 4x2xAWG 26/7 PUR (S-FTP)

Dimensions and specifications may be changed without prior notice.

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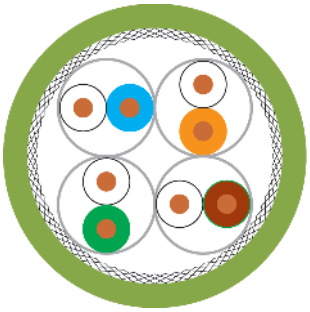
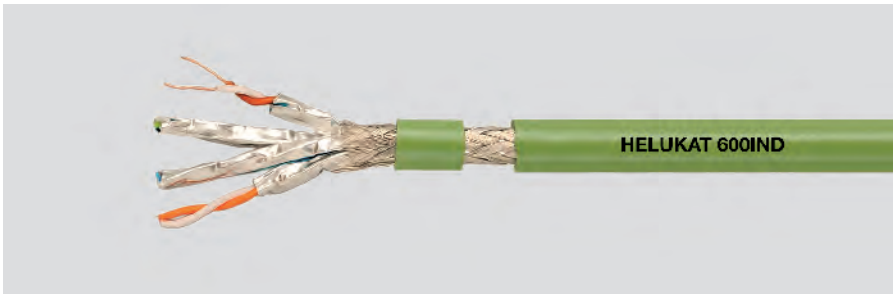
Industrial Ethernet

HELUKAT® 600IND S/FTP 4x2xAWG23/1 PUR

HELUKAT® 600IND





Type
Cable structure

Industrial Area
S/FTP 4x2xAWG 23/1 PUR

Inner conductor diameter:	Copper, bare (AWG 23/1)
Core insulation:	Foam-skin-PE
Core colours:	wh/bu, wh/og, wh/gn, wh/bn
Stranding element:	Double core
Separator:	-
Shielding 1:	Al-Foil
Screen 1 over stranding:	Cu braid
Screen 2 over stranding:	-
Outer sheath material:	PUR
Cable external diameter:	app. 7,5 mm ± 0,3 mm
Outer sheath colour:	Green similar to RAL 6018

Electrical data

Characteristic impedance:	100 Ohm ± 15 Ohm at 1 to 100 MHz 100 Ohm ± 20 Ohm at 101 to 1200 MHz
Loop resistance:	149 Ohm/km max.
Mutual capacitance:	43 nF/km nom.
Relative propagation velocity:	77 %

Typical values

frequency	(MHz)	10	16	62,5	100	250	350	600	900	1000	1200
attenuation	(db/100m)	5,6	7,0	13,8	17,6	28,3	34,0	45,2	57,1	60,8	66,0
next	(db)	95,0	95,0	89,0	87,0	82,0	79,0	74,0	70,0	66,0	63,0
ACR	(db)	89,4	88,0	75,2	69,4	53,7	43,0	27,8	13,9	5,2	-3,0

Technical data

Weight:	app. 68 kg/km
bending radius, repeated:	78 mm
Operating temperature range min.:	-40°C
Operating temperature range max.:	+80°C
Caloric load, approx. value:	0,74 MJ/m
Copper weight:	34,00 kg/km

Norms

Acc. to ISO/IEC 11801, Acc. to EN 50173, Acc. to EIA/TIA 568-A, Category 7e, Flame-retardant acc. to IEC 60332-1-2, Halogen-free acc. to 60754-2, Oil-resistant, AWM Style 21238 600V 80°C

Application

HELUKAT® 600IND Category 7e Robust is used for harsh industrial environments. Mechanically, this product exhibits excellent resistance to mineral oils, greases and cooling lubricants and has good microbe and hydrolysis resistance. Electrically, this cable is characterized by high reserve capacity and outstanding performance. This allows you to create services such as Gigabit Ethernet, Fast Ethernet, Ethernet, ATM155, FDDI, Token Ring 4/16 Mbit/s or ISDN without difficulty. These cables considerably exceed the requirement for compliance with Class B interference emission to EN55022, as well as interference immunity to EN55024. This gives the series outstanding EMC characteristics. **Also in colour blue under p/n 11008281 availiable.**

Part no.

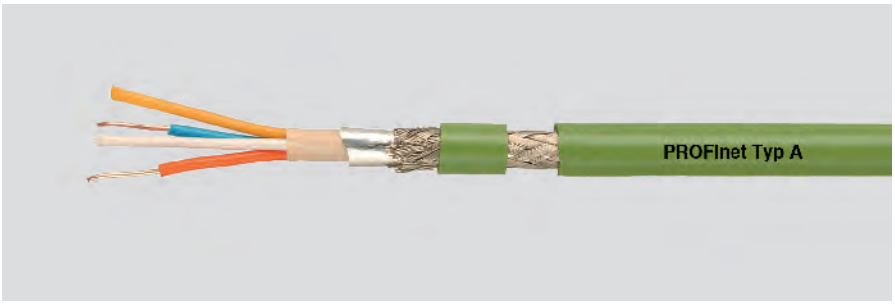
801197, S/FTP 4x2xAWG 23/1 PUR (S-STP)

Dimensions and specifications may be changed without prior notice.

Industrial Ethernet

HELUKAT® PROFInet Typ A 2x2xAWG22/1 PVC + PUR

HELUKAT®



Type	Fixed installation, indoor	Industrial Area
Cable structure	**2x2x0.64 mm**	**2x2x0.64 mm**
Inner conductor diameter:	Copper, bare (AWG 22/1)	Copper, bare (AWG 22/1)
Core insulation:	PE	PE
Core colours:	wh, ye, bu, og	wh, ye, bu, og
Stranding element:	Star quad	Star quad
Separator:	Polyester foil over stranded bundle	Polyester foil over stranded bundle
Inner sheath material:	PVC	PVC
Shielding 1:	Al-Foil	Al-Foil
Total shielding:	Cu braid, tinned	Cu braid, tinned
Outer sheath material:	PVC	PUR
Cable external diameter:	app. 6,5 mm ± 0,2 mm	app. 6,5 mm ± 0,2 mm
Outer sheath colour:	Green similar to RAL 6018	Green similar to RAL 6018

Electrical data

Characteristic impedance:	100 Ohm ± 15 Ohm at 1 to 100 MHz	100 Ohm ± 15 Ohm at 1 to 100 MHz
Conductor resistance, max.:	57,5 Ohm/km	62,5 Ohm/km
Insulation resistance, min.:	5 GOhm x km	0,5 GOhm x km
Loop resistance:	115 Ohm/km max.	115 Ohm/km max.
Mutual capacitance:	48 nF/km nom.	50 nF/km nom.
Test voltage:	2 kV	2 kV

Typical values

Frequency	(MHz)	10	16	62,5	100
Attenuation	(dB/100m)	5,2	6,9	15,0	19,5
Next	(db)	70,0	65,0	55,0	50,0
ACR	(db)	64,8	58,1	40,0	30,5

Technical data

Weight:	app. 67 kg/km	app. 64 kg/km
bending radius, repeated:	65 mm	65 mm
Operating temperature range min.:	-40°C	-40°C
Operating temperature range max.:	+80°C	+70°C
Caloric load, approx. value:	0,34 MJ/m	0,91 MJ/m
Copper weight:	32,00 kg/km	32,00 kg/km

Norms

Applicable standards:	PROFInet Guideline + IEC 61158-2 Acc. to ISO/IEC 11801 Acc. to EN 50173 Category 5e Flame-retardant acc. to IEC 60332-3	PROFInet Guideline + IEC 61158-2 Acc. to ISO/IEC 11801 Acc. to EN 50173 Category 5e Flame-retardant acc. to IEC 60332-1-2
UL Style:	CMG 75°C or PLTC or AWM 21694 600V	-
CSA standard:	CSA FT 4	-

Application

HELUKAT® PROFInet Type A Category 5e for fixed installation in industrial networks, rugged. It guarantees excellent transmission characteristics and may be used even under the harshest conditions. The cable listed here corresponds to PROFInet Type A; this means the version with PVC sheath is designed for normal fixed installations and the version with PUR sheath is for difficult fixed installations in harsh industrial environments.

Part no.

800653, PROFInet type A (SK)

801194, PROFInet type A (SK)

Dimensions and specifications may be changed without prior notice.

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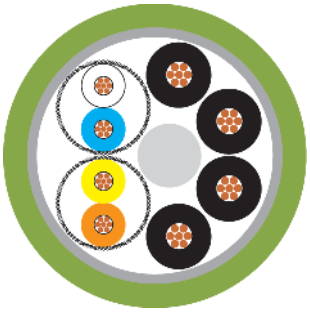
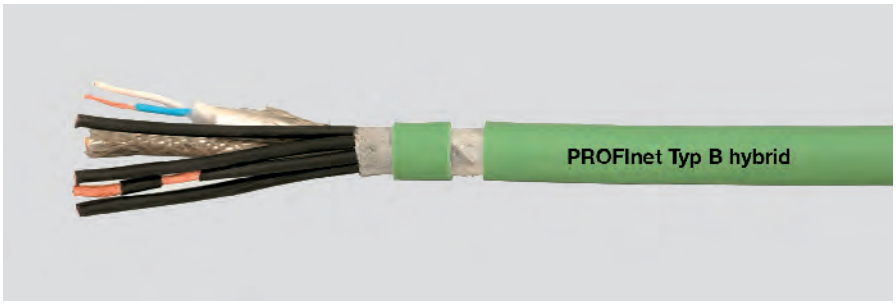
Industrial Ethernet

HELUKAT® PROFInet Typ B hybrid 2x2xAWG22/7 + 4x1,5 FRNC

HELUKAT®





Type
Mobile use
Cable structure
2x2x0,75 mm (stranded)+ 4x1,5qmm

Inner conductor diameter 1:	Copper, bare (AWG 22/7)
Inner conductor diameter 2:	Copper, bare (AWG 16/84)
Core insulation 1:	Foam-skin-PE
Core insulation 2:	PO
Core colours 1:	wh, ye, bu, og
Core colours 2:	Black
Stranding element 1:	Double core
Separator:	Polyester foil over stranded bundle
Shielding 1:	AL-Foil + braid
Total shielding:	Polyester foil
Outer sheath material:	FRNC
Cable external diameter:	app. 10,3 mm ± 0,3 mm
Outer sheath colour:	Green similar to RAL 6018

Electrical data

Characteristic impedance:	100 Ohm ± 15 Ohm at 1 to 100 MHz
Conductor resistance, max.:	60 Ohm/km
Insulation resistance, min.:	0,5 GOhm x km
Loop resistance:	120 Ohm/km max.
Mutual capacitance:	52 nF/km nom.
Test voltage:	2 kV

Typical values

Frequency	(MHz)	10	16	62,5	100
Attenuation	(dB/100m)	6,3	8,0	16,5	21,3
Next	(db)	50,3	47,2	38,4	35,3
ACR	(db)	43,7	39,0	21,5	13,7

Technical data

Weight:	app. 153 kg/km
bending radius, repeated:	103 mm
Operating temperature range min.:	-40°C
Operating temperature range max.:	+70°C
Caloric load, approx. value:	1,50 MJ/m
Copper weight:	94,00 kg/km

Norms

Applicable standards:	PROFInet Guideline + IEC 61158-2 Acc. to ISO/IEC 11801 Acc. to EN 50173 Category 5e Halogen-free acc. to 60754-1 Flame-retardant acc. to IEC 60332-1-2 Corrosiveness acc. to EN50267-2-3 Low-smoke acc. to EN50268-2
UL Style:	UL Style 21282

Application

HELUKAT® PROFInet Type B Category 5e hybrid for flexible applications. The cable listed here corresponds to PROFInet Type B with integrated power supply in a cable with halogen-free and flame-retardent construction.

Part no.

801651, PROFInet type B (SK)

Dimensions and specifications may be changed without prior notice.

Industrial Ethernet

HELUKAT® PROFInet Typ B 2x2xAWG22/7 PVC or FRNC

HELUKAT®

Type	Mobile use	Mobile use
Cable structure	**2x2x0,75 mm (stranded)**	**2x2x0,75 mm (stranded)**
Inner conductor diameter:	Copper, tinned (AWG 22/7)	Copper, tinned (AWG 22/7)
Core insulation:	PE	PP
Core colours:	wh, ye, bu, og	wh, ye, bu, og
Stranding element:	Star quad	Star quad
Separator:	Polyester foil over stranded bundle	Polyester foil over stranded bundle
Inner sheath material:	PVC	FRNC
Shielding 1:	Al-Foil	Al-Foil
Total shielding:	Cu braid, tinned	Cu braid, tinned
Outer sheath material:	PVC	FRNC
Cable external diameter:	app. 6,5 mm ± 0,2 mm	app. 6,5 mm ± 0,2 mm
Outer sheath colour:	Green similar to RAL 6018	Green similar to RAL 6018
Electrical data		
Characteristic impedance:	100 Ohm ± 15 Ohm at 1 to 100 MHz	100 Ohm ± 15 Ohm at 1 to 100 MHz
Conductor resistance, max.:	57,5 Ohm/km	60 Ohm/km
Insulation resistance, min.:	0,5 GOhm x km	0,5 GOhm x km
Loop resistance:	115 Ohm/km max.	120 Ohm/km max.
Mutual capacitance:	48 nF/km nom.	52 nF/km nom.
Test voltage:	2 kV	2 kV
Relative propagation velocity:	65 %	-

Typical values

Frequency	(MHz)	10	16	62,5	100
Attenuation	(dB/100m)	6,3	8,0	16,5	21,3
Next	(db)	70,0	65,0	55,0	50,0
ACR	(db)	64,0	57,4	39,0	29,0

Technical data		
Weight:	app. 67 kg/km	app. 65 kg/km
bending radius, repeated:	100 mm	100 mm
Operating temperature range min.:	-40°C	-25°C
Operating temperature range max.:	+80°C	+75°C
Caloric load, approx. value:	0,32 MJ/m	0,32 MJ/m
Copper weight:	32,00 kg/km	32,00 kg/km
Norms		
Applicable standards:	PROFInet Guideline + IEC 61158-2 Acc. to ISO/IEC 11801 Acc. to EN 50173 Category 5e Flame-retardant acc. to IEC 60332-3	PROFInet Guideline + IEC 61158-2 Acc. to ISO/IEC 11801 Acc. to EN 50173 Category 5e Halogen-free acc. to 60754-1 Flame-retardant acc. to IEC 60332-3 Corrosiveness acc. to EN50267-2-3 Low-smoke acc. to EN50268-2
UL Style:	CMG 75°C or PLTC or AWM 21694 600V	CMG 75°C or PLTC or AWM 21279 600V
CSA standard:	CSA FT 4	CSA FT 4

Application

HELUKAT® PROFInet Type B (flexible) Cat.5e for use on moving parts. The cables listed here correspond to the PROFInet classifications Type B for moving cables and are designed to withstand mechanical loads. The version PVC is the standard cable; the FRNC version is used for halogen free requirements.

Part no.	**800654,** PROFInet type B (SK)	**805654,** PROFInet type B (SK)

Dimensions and specifications may be changed without prior notice.

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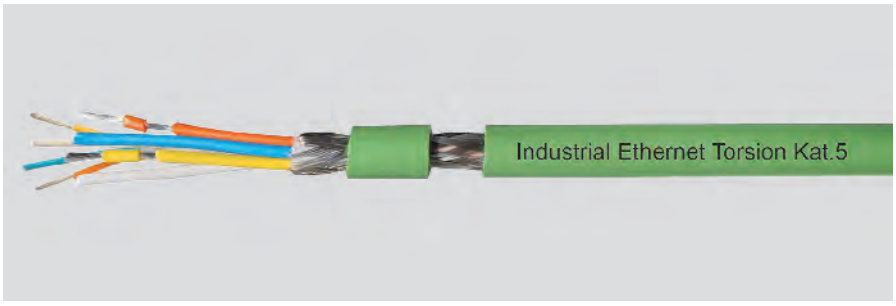
Industrial Ethernet

HELUKAT® INDUSTRIAL ETHERNET TORSION 2x2xAWG22/19 PUR

HELUKAT®



Type
Cable structure

Torsional applications
2x2x0,75 mm (stranded)

Inner conductor diameter:	Copper, tinned (AWG 22/19)
Core insulation:	Foam-skin-PE
Core colours:	wh, ye, bu, og
Stranding element:	Star quad
Separator:	Polyester foil over stranded bundle
Total shielding:	Cu braid, tinned
Outer sheath material:	PUR
Cable external diameter:	app. 6,5 mm ± 0,2 mm
Outer sheath colour:	Green similar to RAL 6018

Electrical data

Characteristic impedance:	100 Ohm ± 15 Ohm at 1 to 100 MHz
Conductor resistance, max.:	60 Ohm/km
Insulation resistance, min.:	0,5 GOhm x km
Loop resistance:	120 Ohm/km max.
Mutual capacitance:	52 nF/km nom.
Test voltage:	0,7 kV

Typical values

Frequency	(MHz)	10	16	62,5	100
Attenuation	(db/100m)	7,6	10,0	26,5	41,0
ELFEXT	(db)	43,8	39,7	24,0	20,0

Technical data

Weight:	app. 54 kg/km
bending radius, repeated:	70 mm
Operating temperature range min.:	-40°C
Operating temperature range max.:	+80°C
Caloric load, approx. value:	0,45 MJ/m
Copper weight:	32,00 kg/km

Norms

Category 5e, Flame-retardant acc. to IEC 60332-1-2, Halogen-free acc. to 60754-1, AWM Style 21161 80°C

Application

HELUKAT® INDUSTRIAL ETHERNET Category 5e TORSION offers excellent transmission characteristics and is designed for applications with torsion loads. The cable listed here corresponds to the classification for continous movement.

Part no.

802186, INDUSTRIAL ETHERNET CAT.5e

Dimensions and specifications may be changed without prior notice.

BUS Cables

HELUKABEL® BUS Cables PROFIBUS L2 Indoor

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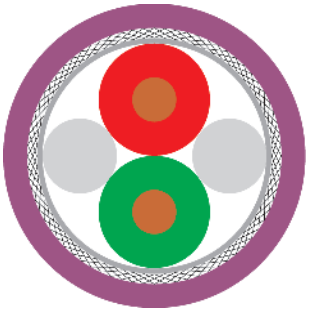


Type	Fixed installation, indoor	Fixed installation, indoor
Cable structure	**1x2x0.64 mm**	**1x2x0.64 mm**
Inner conductor diameter:	Copper, bare (AWG 22/1)	Copper, bare (AWG 22/1)
Core insulation:	Foam-skin-PE	Foam-skin-PE
Core colours:	rd, gn	rd, gn
Stranding element:	2 cores + 2 fillers stranded together	2 cores + 2 fillers stranded together
Separator:	Polyester foil over stranded bundle	Polyester foil over stranded bundle
Shielding 1:	Al-Foil	Al-Foil
Total shielding:	Cu braid, tinned	Cu braid, tinned
Outer sheath material:	PVC	PVC
Cable external diameter:	app. 7,8 mm ± 0,2 mm	app. 7,8 mm ± 0,2 mm
Outer sheath colour:	Grey similar to RAL 7001	Violet similar to RAL 4001
Electrical data		
Characteristic impedance:	150 Ohm ± 10 %	150 Ohm ± 10 %
Conductor resistance, max.:	55 Ohm/km	55 Ohm/km
Insulation resistance, min.:	5 GOhm x km	5 GOhm x km
Loop resistance:	110 Ohm/km max.	110 Ohm/km max.
Mutual capacitance:	30 nF/km nom.	30 nF/km nom.
Test voltage:	1,5 kV	1,5 kV
Attenuation:	9,6 kHz < 2,5 dB/km 38,4 kHz < 4,0 dB/km 4 MHz < 22,0 dB/km 16 MHz < 42,0 dB/km	9,6 kHz < 2,5 dB/km 38,4 kHz < 4,0 dB/km 4 MHz < 22,0 dB/km 16 MHz < 42,0 dB/km
Technical data		
Weight:	app. 69 kg/km	app. 69 kg/km
bending radius, repeated:	120 mm	120 mm
Operating temperature range min.:	-40°C	-40°C
Operating temperature range max.:	+70°C	+70°C
Caloric load, approx. value:	0,99 MJ/m	0,99 MJ/m
Copper weight:	24,00 kg/km	24,00 kg/km
Norms		
Applicable standards:	Profibus acc. to DIN 19245 T3 and EN50170 Flame-retardant acc. to IEC 60332-1-2	Profibus acc. to DIN 19245 T3 and EN50170 Flame-retardant acc. to IEC 60332-1-2
UL Style:	CMX 75°C (shielded)	CMX 75°C (shielded)
CSA standard:	CSA FT1	CSA FT1

Application

HELUKABEL® Profibus L2 Indoor is designed for fixed indoor installation in Profibus industrial networks. Depending on the application, the colour grey (special colour) or violet (standard colour) is availiable. Otherwise, the technical characteristics of the two products are identical.

Part no.

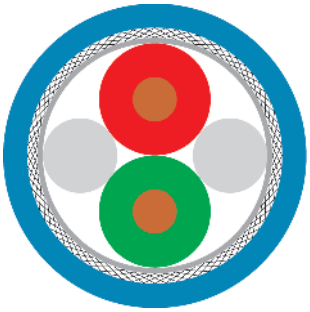
80384, Profibus L2

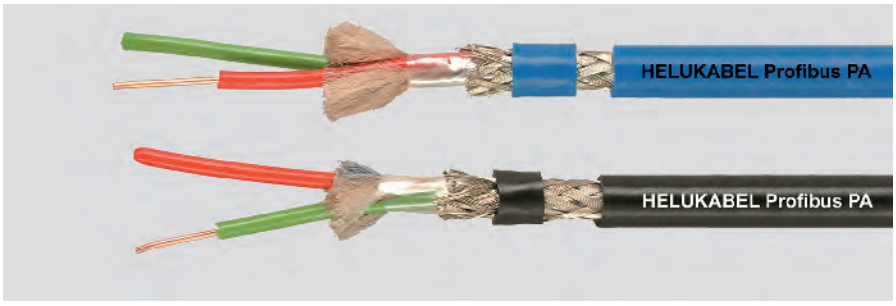
81448, Profibus L2

Dimensions and specifications may be changed without prior notice.

BUS Cables

HELUKABEL® BUS Cables Profibus PA





Type Cable structure	Hazardous areas 1x2x1.0/2.55 mm	Non-hazardous areas 1x2x1.0/2.55 mm
Inner conductor diameter:	Copper, bare (AWG 18/1)	Copper, bare (AWG 18/1)
Core insulation:	PE	PE
Core colours:	rd, gn	rd, gn
Stranding element:	2 cores + 2 fillers stranded together	2 cores + 2 fillers stranded together
Separator:	Polyester foil over stranded bundle	Polyester foil over stranded bundle
Shielding 1:	Al-Foil	Al-Foil
Total shielding:	Cu braid, tinned	Cu braid, tinned
Outer sheath material:	PVC	PVC
Cable external diameter:	app. 7,6 mm ± 0,2 mm	app. 7,6 mm ± 0,2 mm
Outer sheath colour:	Blue similar to RAL 5015	Black

Electrical data

Characteristic impedance:	100 Ohm ± 20 %	100 Ohm ± 20 %
Conductor resistance, max.:	22 Ohm/km	22 Ohm/km
Insulation resistance, min.:	1 GOhm x km	1 GOhm x km
Loop resistance:	44 Ohm/km max.	44 Ohm/km max.
Mutual capacitance:	60 nF/km nom.	60 nF/km nom.
Nominal voltage:	300 V	300 V
Test voltage:	2,5 kV	2,5 kV
Attenuation:	39 kHz ⩽ 3,0 dB/km	39 kHz ⩽ 3,0 dB/km

Technical data

Weight:	app. 76 kg/km	app. 76 kg/km
bending radius, repeated:	140 mm	140 mm
Operating temperature range min.:	-30°C	-30°C
Operating temperature range max.:	+80°C	+80°C
Caloric load, approx. value:	0,95 MJ/m	0,95 MJ/m
Copper weight:	44,00 kg/km	44,00 kg/km

Norms

Applicable standards:	Profibus acc. to DIN 19245 T3 and EN50170 Flame-retardant acc. to IEC 60332-1-2	Profibus acc. to DIN 19245 T3 and EN50170 Flame-retardant acc. to IEC 60332-1-2
UL Style:	UL Style 2571	UL Style 2571

Application

HELUKABEL® Profibus PA is used for normal requirements in the process automation field (chemical industry). The colour blue identifies it as suitable for use in potentially explosive areas (and ATEX/ Class II, EX-i/ EN 60079-14). For other applications, the colour black is usually selected.

Part no.

82835, Profibus PA	**82836,** Profibus PA

Dimensions and specifications may be changed without prior notice.

BUS Cables

HELUKABEL® BUS Cables Profibus SK Indoor + Outdoor

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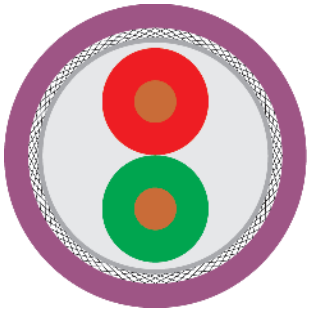


Type Cable structure	Fixed installation, indoor 1x2x0.64 mm	Fixed installation, outdoor 1x2x0.64 mm
Inner conductor diameter:	Copper, bare (AWG 22/1)	Copper, bare (AWG 22/1)
Core insulation:	Foam-skin-PE	Foam-skin-PE
Core colours:	rd, gn	rd, gn
Stranding element:	Double core	Double core
Separator:	Polyester foil over stranded bundle	Polyester foil over stranded bundle
Inner sheath material:	PVC	PVC
Shielding 1:	Al-Foil	Al-Foil
Total shielding:	Cu braid, tinned	Cu braid, tinned
Outer sheath material:	PVC	PE
Cable external diameter:	app. 8,0 mm ± 0,4 mm	app. 8,0 mm ± 0,4 mm
Outer sheath colour:	Violet similar to RAL 4001	Black similar to RAL 9005

Electrical data

Characteristic impedance:	150 Ohm ± 10 %	150 Ohm ± 10 %
Conductor resistance, max.:	55 Ohm/km	55 Ohm/km
Insulation resistance, min.:	1 GOhm x km	1 GOhm x km
Loop resistance:	110 Ohm/km max.	110 Ohm/km max.
Mutual capacitance:	35 nF/km nom.	35 nF/km nom.
Test voltage:	1,5 kV	1,5 kV
Attenuation:	9,6 kHz < 2,5 dB/km 38,4 kHz < 4,0 dB/km 4,0 MHz < 22,0 dB/km 16,0 MHz < 42,0 dB/km	9,6 kHz < 2,5 dB/km 38,4 kHz < 4,0 dB/km 4 MHz < 22,0 dB/km 16 MHz < 42,0 dB/km

Technical data

Weight:	app. 79 kg/km	app. 65 kg/km
bending radius, repeated:	120 mm	120 mm
Operating temperature range min.:	-40°C	-20°C
Operating temperature range max.:	+80°C	+70°C
Caloric load, approx. value:	1,068 MJ/m	1,451 MJ/m
Copper weight:	24,00 kg/km	24,00 kg/km

Norms

Applicable standards:	Profibus acc. to DIN 19245 T3 and EN50170 Flame-retardant acc. to IEC 60332-3	Profibus acc. to DIN 19245 T3 and EN50170
UL Style:	CMG 75°C or CL3 or AWM 21694 600V	-
CSA standard:	CSA FT 4	-

Application

HELUKABEL® Profibus SK Indoor + Outdoor have a special structure for processing with the Fast Connect Stripping Tool from Siemens. The indoor version is used for normal requirements in fixed installation applications in equipment; the Outdoor version is used in open-air applications, i.e. can withstand wind, weather and sun (not for burial directly in the ground).

Part no.

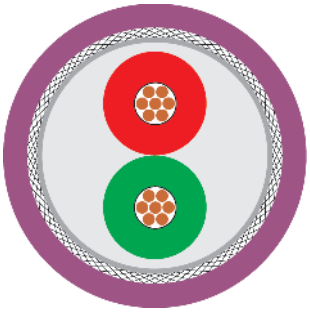
81903, Profibus SK

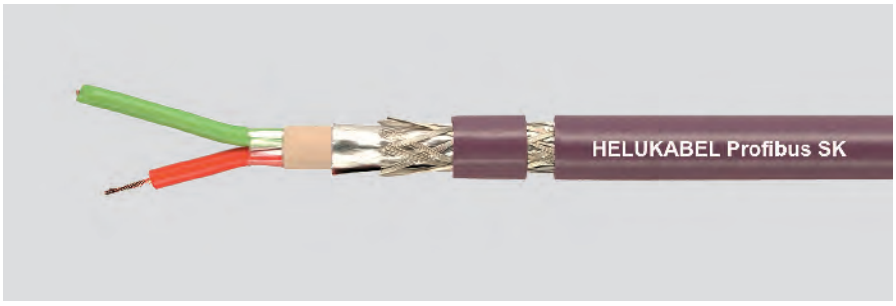
81904, Profibus SK

Dimensions and specifications may be changed without prior notice.

BUS Cables

HELUKABEL® BUS Cables Profibus SK Drag Chain





Type Cable structure	Drag chain applications 1x2x0.65 mm (stranded)	Drag chain applications 1x2x0.65 mm (stranded)
Inner conductor diameter:	Copper, bare (AWG 24/19)	Copper, bare (AWG 24/19)
Core insulation:	Foam-skin-PE	Foam-skin-PE
Core colours:	rd, gn	rd, gn
Stranding element:	Double core	Double core
Separator:	Polyester foil over stranded bundle	Polyester foil over stranded bundle
Inner sheath material:	PVC	PVC
Shielding 1:	Al-Foil	Al-Foil
Total shielding:	Cu braid, tinned	Cu braid, tinned
Outer sheath material:	PUR	PUR
Cable external diameter:	app. 8,0 mm ± 0,4 mm	app. 8,0 mm ± 0,4 mm
Outer sheath colour:	Violet similar to RAL 4001	Petrol similar to RAL 5018

Electrical data

Characteristic impedance:	150 Ohm ± 10 %	150 Ohm ± 10 %
Conductor resistance, max.:	67 Ohm/km	67 Ohm/km
Insulation resistance, min.:	1 GOhm x km	1 GOhm x km
Loop resistance:	134 Ohm/km max.	134 Ohm/km max.
Mutual capacitance:	35 nF/km nom.	35 nF/km nom.
Test voltage:	1,5 kV	1,5 kV
Attenuation:	9,6 kHz < 3,0 dB/km	9,6 kHz < 3,0 dB/km
	38,4 kHz < 5,0 dB/km	38,4 kHz < 5,0 dB/km
	4 MHz < 25,0 dB/km	4 MHz < 25,0 dB/km
	16 MHz < 49,0 dB/km	16 MHz < 49,0 dB/km

Technical data

Weight:	app. 70 kg/km	app. 70 kg/km
bending radius, repeated:	100 mm	100 mm
Operating temperature range min.:	-40°C	-40°C
Operating temperature range max.:	+70°C	+70°C
Caloric load, approx. value:	1,53 MJ/m	1,53 MJ/m
Copper weight:	25,00 kg/km	25,00 kg/km

Norms

Applicable standards:	Profibus acc. to DIN 19245 T3 and EN50170 Flame-retardant acc. to IEC 60332-1-2	Profibus acc. to DIN 19245 T3 and EN50170 Flame-retardant acc. to IEC 60332-1-2
UL Style:	CMX 75°C (shielded)	CMX 75°C (shielded)
CSA standard:	CSA FT1	CSA FT1

Application

HELUKABEL® Profibus SK drag chain is designed for continous motion in cable carriers and has a special structure for processing with the Fast Connect Stripping Tool from Siemens. Thanks to the PU sheath, it also offers excellent resistance to common mineral oils, greases and cooling lubricants. Depending on the application, the colour petrol or violet is availiable.

Part no.

801659, Profibus SK	**81906,** Profibus SK

Dimensions and specifications may be changed without prior notice.

BUS Cables

HELUKABEL® ASI - BUS Cable A-BUS 2X1.5 EPDM

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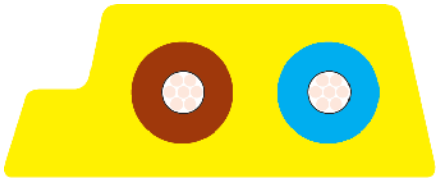


Type	Actuator Sensor Interface 2x1.5 mm²	Actuator Sensor Interface 2x1.5 mm²
Cable structure		
Inner conductor:	Copper, tinned	Copper, tinned
Core insulation:	Rubber compound	Rubber compound
Core colours:	bu, bn	bu, bn
Separator:	-	-
Shielding 1:	-	-
Total shielding:	-	-
Outer sheath material:	EPDM	EPDM
Outer sheath colour:	Yellow similar to RAL 1023	Black similar to RAL 9005
Electrical data		
Conductor resistance, max.:	13,7 Ohm/km	13,7 Ohm/km
Insulation resistance, min.:	1 GOhm x km	1 GOhm x km
Loop resistance:	27,4 Ohm/km max.	27,4 Ohm/km max.
Nominal voltage:	32 V	48 V
Test voltage:	1 kV at 15 min.	1 kV at 15 min.
Technical data		
Weight:	app. 70 kg/km	app. 70 kg/km
bending radius, repeated:	30 mm	30 mm
Operating temperature range min.:	-40°C	-40°C
Operating temperature range max.:	+85°C	+85°C
Caloric load, approx. value:	0,975 MJ/m	0,975 MJ/m
Copper weight:	31,00 kg/km	31,00 kg/km
Norms		
Applicable standards:	ASI standard Halogen-free acc. to 60754-1	ASI standard Halogen-free acc. to 60754-1

Application

HELUKABEL® A-Bus EPDM Rubber for normal use in an AS-I system. Applications include wet/dry areas where the properties of a rubber jacket are desired. In addition, this material offers benefits such as low compression forces needed when contacting and the best sealing against the AS-I module.

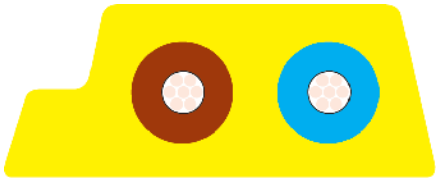
Part no.		
	80824, A-BUS EPDM	**80825,** A-BUS EPDM

Dimensions and specifications may be changed without prior notice.

BUS Cables

A-BUS EPDM, Long Distance

HELUKABEL®



Type	Industrial Area	Industrial Area
Cable structure	**2x2.5 mm²**	**2x2.5 mm²**
Inner conductor:	Copper, tinned	Copper, tinned
Core insulation:	Rubber compound	Rubber compound
Core colours:	bu, bn	bu, bn
Separator:	-	-
Shielding 1:	-	-
Total shielding:	-	-
Outer sheath material:	EPDM	EPDM
Outer sheath colour:	Yellow similar to RAL 1023	Black similar to RAL 9005

Electrical data

Technical data

Weight:	app. 130 kg/km	app. 130 kg/km
bending radius, repeated:	35 mm	30 mm
Operating temperature range min.:	-40°C	-40°C
Operating temperature range max.:	+85°C	+85°C
Caloric load, approx. value:	0,70 MJ/m	0,70 MJ/m
Copper weight:	49,00 kg/km	49,00 kg/km

Norms

Applicable standards:	ASI standard Halogen-free acc. to 60754-1	ASI standard Halogen-free acc. to 60754-1

Application

HELUKABEL® A-Bus Long Distance EPDM Rubber 2,5mm² for normal use in an AS-I system. The enlarged cross-section allows bigger transmission distances, higher ampacity and this results in savings of supplementary power packs. Applications include wet/dry areas where the properties of a rubber jacket are desired. In addition, this material offers benefits such as low compression forces needed when contacting and the best sealing against the AS-I module.

Part no.

804408, A-BUS EPDM

804409, A-BUS EPDM

Dimensions and specifications may be changed without prior notice.

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DRAG CHAIN CABLES

JZ-HF

Drag chain cables, high flexible, number coded, oil resistant, meter marking

Technical data

- PVC cable adapted to DIN VDE 0285-525-2-51 / DIN EN 50525-2-51
- **Temperature range**
  flexing -10°C to +80°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  4000 V
- **Breakdown voltage**
  min. 8000 V
- **Minimum bending radius**
  flexing 7,5x outer Ø
  fixed installation 4x outer Ø

Cable structure

- Bare copper conductor, extra fine wire acc. to DIN VDE 0295 cl.6, col. 4 / IEC 60228 cl.6
- Core insulation of special PVC compound type Z 7225
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal selected lay length
- Fleece wrapping over each layer
- Outer sheath of special PVC compound type TM5 acc. to DIN VDE 0207-363-4-1/DIN EN 50363-4-1
- Sheath colour: grey (RAL 7001)
- With meter marking

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Oil resistant acc. to DIN VDE 0473-811-404/DIN EN 60811-404

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OZ)
- Cleanroom qualification tested with analog type. Please note "cleanroom qualified" when ordering.
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- Screened analogue type:
  JZ-HF-CY
- With UL-approval
  MULTISPEED® 500-PVC UL/CSA

Application

JZ-HF cables are ideal for use in the machine tool industry, in robotics and machine production and anywhere where high flexibility is essential. The cables are suitable for installation in dry and moist environments but not in open air. These cables have shown excellent performance in combination with standard cable trays. These cables are suitable for flexible use for medium mechanical stresses with free movements. For applications which go beyond standard solutions (for example for composting appliances or high shelf conveyors with extremely high processing speeds etc.) we recommend for our especially developed enquiry sheet for energy guiding systems. For use in drag chains, please observe the assembly instructions. Further technical details see selection table for drag chain cables, see chapter "Technical Information".

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
15001	2 x 0,5	5,0	9,6	38,0	20
15002	3 G 0,5	5,3	14,0	44,0	20
15003	4 G 0,5	5,7	19,0	52,0	20
15004	5 G 0,5	6,4	24,0	67,0	20
15005	7 G 0,5	7,6	34,0	91,0	20
15090	7 x 0,5	7,6	34,0	91,0	20
15006	10 G 0,5	9,3	48,0	128,0	20
15007	12 G 0,5	9,3	58,0	137,0	20
15008	14 G 0,5	9,8	67,0	158,0	20
15009	16 G 0,5	10,3	77,0	182,0	20
15010	18 G 0,5	11,2	86,0	207,0	20
15011	20 G 0,5	11,6	96,0	226,0	20
15012	25 G 0,5	13,6	120,0	292,0	20
15013	30 G 0,5	13,7	144,0	330,0	20
15014	34 G 0,5	15,0	163,0	387,0	20
15015	36 G 0,5	15,0	173,0	399,0	20
15016	42 G 0,5	16,3	202,0	449,0	20
15017	50 G 0,5	17,8	240,0	573,0	20
15018	61 G 0,5	19,3	290,0	682,0	20
15019	2 x 0,75	5,5	14,0	44,0	19

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
15020	3 G 0,75	5,7	22,0	53,0	19
15021	4 G 0,75	6,4	29,0	67,0	19
15022	5 G 0,75	7,0	36,0	81,0	19
15023	7 G 0,75	8,4	50,0	111,0	19
15024	10 G 0,75	10,3	72,0	159,0	19
15025	12 G 0,75	10,3	86,0	174,0	19
14070	12 x 0,75	10,3	86,0	174,0	19
15026	14 G 0,75	10,9	101,0	201,0	19
13944	14 x 0,75	10,9	101,0	201,0	19
15027	16 G 0,75	11,5	115,0	225,0	19
15028	18 G 0,75	12,2	130,0	249,0	19
15029	20 G 0,75	12,9	144,0	282,0	19
15030	25 G 0,75	14,5	180,0	375,0	19
15031	30 G 0,75	15,2	216,0	411,0	19
15032	34 G 0,75	16,6	245,0	473,0	19
15033	36 G 0,75	16,6	259,0	509,0	19
15034	42 G 0,75	18,3	302,0	602,0	19
15035	50 G 0,75	20,0	360,0	706,0	19
15036	61 G 0,75	21,3	432,0	886,0	19
15091	65 G 0,75	22,0	439,0	899,0	19

Continuation ▶

JZ-HF

Drag chain cables, high flexible, number coded, oil resistant, meter marking

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
15037	2 x 1	5,7	19,0	62,0	18
15038	3 G 1	6,0	29,0	64,0	18
15039	4 G 1	6,8	38,0	80,0	18
15040	5 G 1	7,5	48,0	97,0	18
15041	7 G 1	8,9	67,0	132,0	18
15042	10 G 1	10,9	96,0	187,0	18
15043	12 G 1	10,9	115,0	206,0	18
15044	14 G 1	11,6	134,0	239,0	18
15045	16 G 1	12,3	154,0	274,0	18
15046	18 G 1	13,0	173,0	307,0	18
15047	20 G 1	13,7	192,0	336,0	18
15048	25 G 1	15,6	240,0	443,0	18
15049	30 G 1	16,4	288,0	558,0	18
15050	34 G 1	17,8	326,0	601,0	18
15051	36 G 1	17,8	346,0	623,0	18
15052	41 G 1	19,4	403,0	710,0	18
15214	42 G 1	19,4	403,0	730,0	18
15053	50 G 1	21,1	480,0	868,0	18
15092	61 G 1	22,8	586,0	1044,0	18
15054	65 G 1	23,6	624,0	1195,0	18
15055	2 x 1,5	6,5	29,0	69,0	16
15056	3 G 1,5	6,9	43,0	84,0	16
15057	4 G 1,5	7,5	58,0	103,0	16
15058	5 G 1,5	8,4	72,0	129,0	16
15059	7 G 1,5	10,1	101,0	177,0	16
11017475	8 G 1,5	11,1	115,0	206,0	16
15060	10 G 1,5	11,9	144,0	248,0	16
15061	12 G 1,5	12,3	173,0	283,0	16
15062	14 G 1,5	13,1	202,0	327,0	16
15063	16 G 1,5	14,0	230,0	372,0	16
15064	18 G 1,5	14,7	259,0	418,0	16
15065	20 G 1,5	15,7	288,0	469,0	16
15066	25 G 1,5	17,5	360,0	631,0	16
15067	30 G 1,5	18,7	432,0	701,0	16

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
15068	34 G 1,5	20,3	490,0	800,0	16
15069	36 G 1,5	20,3	518,0	831,0	16
15070	42 G 1,5	22,1	605,0	987,0	16
15071	50 G 1,5	24,0	720,0	1241,0	16
15072	60 G 1,5	25,4	864,0	1431,0	16
15215	61 G 1,5	25,9	878,0	1495,0	16
15216	65 G 1,5	26,8	936,0	1566,0	16
15073	2 x 2,5	8,1	48,0	102,2	14
15074	3 G 2,5	8,6	72,0	129,0	14
15075	4 G 2,5	9,6	96,0	160,0	14
15076	5 G 2,5	10,5	120,0	201,0	14
15077	7 G 2,5	12,9	168,0	278,0	14
15078	10 G 2,5	15,3	240,0	398,0	14
15079	12 G 2,5	15,3	288,0	444,0	14
15080	14 G 2,5	16,8	336,0	512,0	14
15081	16 G 2,5	17,7	384,0	615,0	14
15082	18 G 2,5	18,8	432,0	678,0	14
15083	20 G 2,5	20,0	480,0	752,0	14
15084	25 G 2,5	22,5	600,0	1060,0	14
15085	30 G 2,5	24,0	720,0	1197,0	14
15086	34 G 2,5	26,0	816,0	1337,0	14
15087	36 G 2,5	26,0	864,0	1384,0	14
15088	42 G 2,5	28,5	1008,0	1599,0	14
15089	50 G 2,5	30,6	1200,0	1854,0	14
15142	3 G 4	10,5	115,0	213,0	12
15143	4 G 4	11,5	154,0	265,0	12
15144	5 G 4	12,8	192,0	328,0	12
15145	4 G 6	13,3	230,0	382,0	10
15146	5 G 6	14,6	288,0	461,0	10
15147	4 G 10	17,8	384,0	652,0	8
15148	5 G 10	19,7	480,0	790,0	8
15149	4 G 16	20,8	614,0	1007,0	6
15150	5 G 16	23,3	768,0	1304,0	6

Dimensions and specifications may be changed without prior notice. (RC01)

JZ-HF-CY

high flexible, control cable for drag chains, oil resistant, screened, meter marking, EMC-preferred type

Technical data

- Special PVC control cable, extreme flexibility due to special construction
- Requirements adapted to DIN VDE 0285-525-2-51 / DIN EN 50525-2-51
- **Temperature range**
  flexing -10°C to +80°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  4000 V
- **Breakdown voltage**
  min. 8000 V
- **Minimum bending radius**
  flexing 10x outer Ø
  fixed installation 5x outer Ø

Cable structure

- Bare copper conductor, extra fine wire acc. to DIN VDE 0295 cl.6 / IEC 60228 cl.6
- Core insulation of special PVC compound type Z 7225
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal selected lay length
- Core wrapping with fleece
- PVC-inner sheath
- Tinned copper braided screen, minimum coverage 85%
- Outer sheath of special PVC compound type TM5 acc. to DIN VDE 0207-363-4-1/DIN EN 50363-4-1
- Sheath colour: grey (RAL 7001)
- With meter marking

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Oil resistant acc. to DIN VDE 0473-811-404/DIN EN 60811-404

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OZ)
- Cleanroom qualification tested with analog type. Please note "cleanroom qualified" when ordering.
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- Unscreened analogue type:
  JZ-HF
- With UL-approval
  JZ-HF-FCY

Application

JZ-HF cables are ideal for use in the machine tool industry, in robotics and machine production and anywhere where high flexibility is essential. These cables have shown excellent performance in combination with standard cable trays. These cables are suitable for flexible use for medium mechanical stresses with free movements. The dense screening assures disturbance-free transmission of all signals and impulses. An ideal disturbance-free control cable for the above application. For applications which go beyond standard solutions (for example for composting appliances or high shelf conveyors with extremely high processing speeds etc.) we recommend for our especially developed enquiry sheet for energy guiding systems. Before installation in cable trays please read the instructions. Further technical details see selection table for drag chain cables, see chapter "Technical Information".

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
15930	2 x 0,5	7,2	30,0	90,0	20
15931	3 G 0,5	7,5	38,0	115,0	20
15932	4 G 0,5	8,1	48,0	140,0	20
15933	5 G 0,5	8,6	64,0	168,0	20
15934	7 G 0,5	9,9	70,0	217,0	20
15935	12 G 0,5	11,6	100,0	274,0	20
15876	14 G 0,5	12,2	135,0	332,0	20
15877	16 G 0,5	13,0	145,0	388,0	20
15936	18 G 0,5	13,8	154,0	445,0	20
15937	20 G 0,5	14,3	160,0	497,0	20
15878	21 G 0,5	14,8	175,0	500,0	20
15938	25 G 0,5	16,1	240,0	505,0	20
15879	30 G 0,5	16,6	280,0	515,0	20
15880	34 G 0,5	17,7	290,0	530,0	20
15881	36 G 0,5	17,7	300,0	572,0	20
15882	42 G 0,5	19,2	330,0	605,0	20
15883	50 G 0,5	21,2	393,0	742,0	20

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
15945	2 x 0,75	7,6	39,0	105,0	19
15946	3 G 0,75	8,1	49,0	128,0	19
15947	4 G 0,75	8,6	60,0	184,0	19
15948	5 G 0,75	9,4	70,0	200,0	19
15949	7 G 0,75	10,5	95,0	269,0	19
15885	10 G 0,75	12,6	110,0	327,0	19
15950	12 G 0,75	12,9	140,0	366,0	19
15886	14 G 0,75	13,4	163,0	426,0	19
15887	16 G 0,75	14,2	187,0	487,0	19
15951	18 G 0,75	14,8	211,0	547,0	19
15888	20 G 0,75	15,5	216,0	551,0	19
15889	21 G 0,75	16,2	272,0	590,0	19
15952	25 G 0,75	17,7	322,0	600,0	19
15890	30 G 0,75	18,2	414,0	650,0	19
15891	34 G 0,75	19,8	473,0	685,0	19
15892	36 G 0,75	19,8	500,0	720,0	19
15893	42 G 0,75	21,0	583,0	800,0	19
15894	50 G 0,75	23,1	695,0	954,0	19

Continuation ▸

JZ-HF-CY

high flexible, control cable for drag chains, oil resistant, screened, meter marking, EMC-preferred type

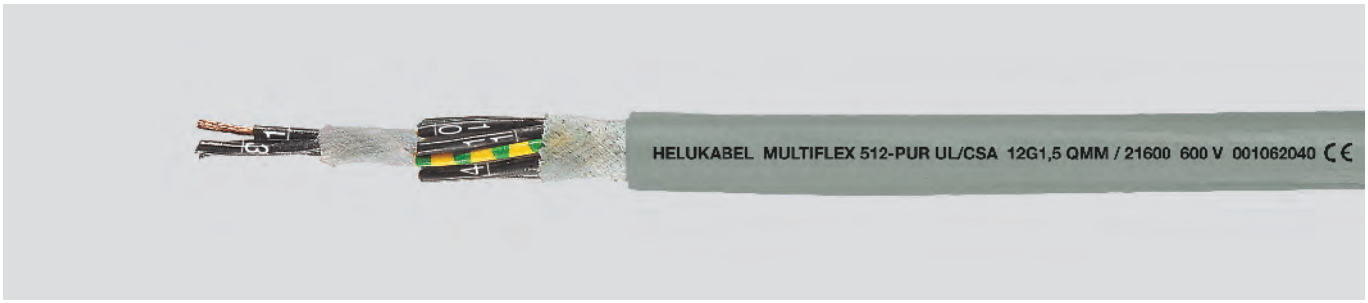
Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
15961	2 x 1	8,1	50,0	115,0	18
15962	3 G 1	8,4	60,0	142,0	18
15963	4 G 1	9,0	73,0	196,0	18
15964	5 G 1	9,8	81,0	271,0	18
15965	7 G 1	11,2	114,0	307,0	18
15966	12 G 1	13,4	186,0	474,0	18
15967	18 G 1	15,7	254,0	622,0	18
15968	25 G 1	19,0	365,0	828,0	18
15969	34 G 1	21,0	500,0	1049,0	18
15970	41 G 1	22,7	576,0	1257,0	18
15971	50 G 1	24,5	681,0	1437,0	18
15972	65 G 1	27,7	932,0	1823,0	18
15976	2 x 1,5	8,6	64,0	170,0	16
15977	3 G 1,5	9,0	84,0	203,0	16
15978	4 G 1,5	9,8	99,0	243,0	16
15979	5 G 1,5	10,5	120,0	288,0	16
15980	7 G 1,5	12,5	148,0	403,0	16
15981	12 G 1,5	14,8	274,0	592,0	16
15982	18 G 1,5	17,3	386,0	844,0	16
15983	25 G 1,5	21,0	584,0	1155,0	16
15152	41 G 1,5	24,8	867,0	1227,0	16
15153	50 G 1,5	27,3	970,0	1445,0	16
15154	61 G 1,5	29,8	1028,0	1724,0	16

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
15925	3 G 2,5	10,8	140,0	215,0	14
15926	4 G 2,5	11,5	159,0	264,0	14
15927	5 G 2,5	12,9	194,0	344,0	14
15928	7 G 2,5	15,1	234,0	410,0	14
15929	12 G 2,5	18,4	390,0	721,0	14
15155	3 G 4	13,0	178,0	292,0	12
15156	4 G 4	14,2	222,0	372,0	12
15157	5 G 4	15,6	328,0	448,0	12
15158	4 G 6	16,0	305,0	526,0	10
15159	5 G 6	17,5	441,0	632,0	10
15160	4 G 10	21,2	485,0	838,0	8
15161	5 G 10	23,2	610,0	998,0	8
15162	4 G 16	24,1	840,0	1225,0	6
15163	5 G 16	27,0	1050,0	1560,0	6

Dimensions and specifications may be changed without prior notice. (RC01)

MULTIFLEX 512®-PUR UL/CSA

Cable for drag chains, 80°C, 600 V, halogen-free, meter marking



Technical data

- Drag chain cables for extreme mechanical stress, acc. to UL Style 20939
- **Temperature range**
  flexing -30°C to +80°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  UL/CSA 600 V
- **Test voltage**
  3000 V
- **Minimum bending radius**
  flexing 5x cable Ø
  fixed installation 3x cable Ø
- **Alternating bending test**
  tested with approx. **10 million bending cycles**

Cable structure

- Bare copper conductor, extra fine wire acc. to DIN VDE 0295 cl.6, col. 4 / IEC 60228 cl.6
- Core insulation of special PP
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal selected lay length
- Fleece wrapping over each layer (from 4 mm² without fleece wrapping)
- Outer sheath of special **full-polyurethane** TMPU, to DIN VDE 0207-363-10-2/ DIN EN 50363-10-2
- Sheath colour: grey (RAL 7001)
- With meter marking

Properties

- Very good oil resistant
- Guaranteed permanent application in multi-shift operation under extreme high bending stress
- Adhesion-low
- High resistance to mechanical strain
- High property of alternating bending strength
- Long life durabilities through low friction-resistance by using the PP insulation
- High tensile strength-, abrasion- and impact resistant at low temperature
- Resistant to weather, ozone, UV-radiation, solvents, acids, alkalis, hydraulic liquidity, hydrolysis
- Outdoor application
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 / UL VW-1 / CSA FT1

Note

- G = with GN-YE conductor
  x = without GN-YE conductor
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- Screened analogue type:
  MULTIFLEX 512® -C-PUR UL/CSA

Application

These UL/CSA cables for drag chains are used for permanent flexible applications in machineries, machine tools, robot technics, for movable automated machinery parts and multi-shift operation. Those cables are developed according to the newest state of technology improvement. These high flexible control cables with sliding abilities guaranteed an optimum service life durabilities and also very economic by using the PP-core insulation and the PUR-outer sheath. The PUR material is adhesion-low and cut-resistant. For applications which go beyond standard solutions (for example for composting appliances or high shelf conveyors with extremely high processing speeds etc.) we recommend for our especially developed enquiry sheet for energy guiding systems. Further technical details see selection table for drag chain cables, see chapter "Technical Information". For use in cable drag chains please note installation instruction.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
21559	2 x 0,5	20	5,9	9,6	38,0
21560	3 G 0,5	20	6,2	14,4	46,0
21561	4 G 0,5	20	6,7	19,0	59,0
21562	5 G 0,5	20	7,2	24,0	68,0
21563	7 G 0,5	20	8,3	33,6	88,0
21564	12 G 0,5	20	9,7	58,0	131,0
21565	18 G 0,5	20	11,2	86,0	197,0
21566	20 G 0,5	20	11,8	96,0	260,0
21567	25 G 0,5	20	13,6	120,0	282,0
21568	30 G 0,5	20	13,9	144,0	315,0
21569	36 G 0,5	20	15,1	172,0	374,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
21570	2 x 0,75	19	6,6	14,4	47,0
21571	3 G 0,75	19	7,0	21,6	58,0
21572	4 G 0,75	19	7,5	29,0	69,0
21573	5 G 0,75	19	8,1	36,0	85,0
21574	7 G 0,75	19	9,4	50,0	118,0
21575	12 G 0,75	19	11,2	86,0	183,0
21576	18 G 0,75	19	13,0	130,0	270,0
21577	20 G 0,75	19	13,8	144,0	290,0
21523	21 G 0,75	19	14,7	151,0	302,0
21578	25 G 0,75	19	16,3	180,0	374,0
21579	30 G 0,75	19	16,5	216,0	420,0
21580	36 G 0,75	19	18,0	259,0	498,0

Continuation ▸

MULTIFLEX 512®-PUR UL/CSA

Cable for drag chains, 80°C, 600 V, halogen-free, meter marking

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
21581	2 x 1	18	6,9	19,2	55,0
21582	3 G 1	18	7,3	29,0	70,0
21583	4 G 1	18	7,9	38,0	86,0
21584	5 G 1	18	8,5	48,0	102,0
21585	7 G 1	18	10,0	67,0	143,0
21586	12 G 1	18	11,8	115,0	225,0
21587	18 G 1	18	13,9	173,0	334,0
21588	20 G 1	18	14,9	192,0	370,0
21589	25 G 1	18	17,2	240,0	460,0
21590	30 G 1	18	17,7	288,0	530,0
21591	36 G 1	18	19,2	346,0	625,0
21592	41 G 1	18	20,9	410,0	779,0
21593	50 G 1	18	22,8	498,0	953,0
21594	65 G 1	18	26,0	650,0	1205,0
21595	2 x 1,5	16	7,7	29,0	70,0
21596	3 G 1,5	16	8,2	43,0	90,0
21597	4 G 1,5	16	8,9	58,0	106,0
21598	5 G 1,5	16	9,6	72,0	145,0
21599	7 G 1,5	16	11,3	101,0	205,0
21600	12 G 1,5	16	13,7	173,0	320,0
21601	18 G 1,5	16	16,4	259,0	465,0
21602	20 G 1,5	16	17,2	288,0	510,0
21603	25 G 1,5	16	20,2	360,0	650,0
21604	30 G 1,5	16	20,7	432,0	750,0
21605	36 G 1,5	16	22,5	518,0	880,0
21606	42 G 1,5	16	24,4	628,0	1209,0
21607	50 G 1,5	16	26,8	749,0	1449,0
21608	61 G 1,5	16	29,6	912,0	1712,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
21609	2 x 2,5	14	8,5	48,0	115,0
21610	3 G 2,5	14	9,0	72,0	162,0
21611	4 G 2,5	14	9,8	96,0	196,0
21612	5 G 2,5	14	10,7	120,0	230,0
21613	7 G 2,5	14	12,7	168,0	312,0
21614	12 G 2,5	14	15,5	288,0	532,0
21615	18 G 2,5	14	18,6	432,0	762,0
21616	20 G 2,5	14	19,8	480,0	858,0
21617	25 G 2,5	14	23,1	600,0	998,0
21618	4 G 4	12	11,2	154,0	283,0
21619	5 G 4	12	12,3	192,0	349,0
21620	7 G 4	12	15,0	79,0	498,0
11017371	3 G 6	10	11,6	173,0	350,0
21621	4 G 6	10	12,7	230,0	432,0
21622	5 G 6	10	14,1	288,0	529,0
21623	7 G 6	10	17,2	403,0	782,0
21624	4 G 10	8	16,7	384,0	685,0
21625	5 G 10	8	18,6	480,0	817,0
21626	7 G 10	8	22,8	672,0	1023,0
11017372	3 G 16	6	17,6	461,0	792,0
21627	4 G 16	6	19,6	614,0	1042,0
21628	5 G 16	6	21,9	768,0	1292,0
21629	7 G 16	6	26,8	1075,0	1709,0

Dimensions and specifications may be changed without prior notice. (RN05)

MULTIFLEX 512®-C-PUR UL/CSA

special cable for drag chains, 80°C, 600 V, EMC-preferred type, halogen-free, meter marking

Technical data

- Special drag chain cables for extreme mechanical stress to UL Style 20939
- **Temperature range**
  flexing -30°C to +80°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  UL/CSA 600 V
- **Test voltage**
  3000 V
- **Coupling resistance**
  max. 250 Ohm/km
- **Minimum bending radius**
  flexing 7,5x cable Ø
  fixed installation 4x cable Ø
- **Alternating bending test**
  tested with approx. **10 million bending cycles**

Cable structure

- Bare copper conductor, extra fine wire, acc. to DIN VDE 0295 cl.6, col. 4, BS 6360 cl.6 and IEC 60228 cl.6
- Core insulation of special PP
- Core identification to DIN VDE 0293 black cores with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Special core wrapping over each layers and an additional fleece over outer layer
- **TPE-inner sheath**, halogen-free
- Wrapping with special tapes
- Tinned copper braided screening, approx. 85% coverage
- Special core wrapping of fleece (from 4 mm² without core wrapping over the outer layer)
- Outer sheath of special **full-polyurethane** compound type TMPU, acc. to DIN VDE 0207-363-10-2 / DIN EN 50363-10-2
- Sheath colour: grey (RAL 7001)
- With meter marking

Properties

- Very good oil resistant
- Guaranteed permanent application in multi-shift operation under extreme high bending stress
- Adhesion-low
- High resistant to mechanical strain
- High property of alternating bending strength
- Long lifedurabilities through low fiction-resistance by using the PP insulation
- High tensile strength-, abrasion and impact resistant at low temperature
- Resistant to weather, ozone, UV-radiation, solvents, acids, alkalis, hydraulic liquidity, hydrolysis
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- PUR sheath flame retardant
  acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
  UL VW-1 / CSA FT1

Note

- G = with GN-YE conductor
  x = without GN-YE conductor
- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- Unscreened analogue type:
  MULTIFLEX 512® PUR UL/CSA

Application

The special screened UL/CSA cables for drag chains are mainly applied for impulse transmission to prevent external interference effects and used for permanent flexible applications in machineries, machine tools, robot technics, for movable automated machinery parts and multi-shift operation. Those cables are developed according to the newest state of technology improvement. These high flexible control cables with sliding abilities guaranteed an optimum service life durabilities and also very economic by using the PP-core insulation and the PUR-outer sheath which is adhesive-free and cut-resistant. For applications which go beyond standard solutions (for example for composting appliances or high shelf conveyors with extremely high processing speeds etc.) we recommend for our especially developed enquiry sheet for energy guiding systems. Before installation in cable trays please read the instructions. Further technical details see selection table for drag chain cables, see chapter "Technical Information".

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
21630	2 x 0,5	20	7,8	30,0	90,0
21631	3 G 0,5	20	8,1	38,0	105,0
21632	4 G 0,5	20	8,6	50,0	124,0
21633	5 G 0,5	20	9,1	65,0	132,0
21634	7 G 0,5	20	10,2	70,0	175,0
21635	12 G 0,5	20	11,8	100,0	250,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
21636	18 G 0,5	20	13,9	157,0	325,0
21637	20 G 0,5	20	14,7	167,0	350,0
21638	25 G 0,5	20	16,6	240,0	450,0
21639	30 G 0,5	20	17,0	273,0	510,0
21640	36 G 0,5	20	18,2	306,0	580,0

Continuation ▸

MULTIFLEX 512®-C-PUR UL/CSA

special cable for drag chains, 80°C, 600 V, EMC-preferred type, halogen-free, meter marking

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
21641	2 x 0,75	19	8,5	39,0	110,0
21642	3 G 0,75	19	8,9	49,0	120,0
21643	4 G 0,75	19	9,4	60,0	148,0
21644	5 G 0,75	19	10,1	70,0	160,0
21645	7 G 0,75	19	11,6	95,0	205,0
21646	12 G 0,75	19	13,9	140,0	308,0
21647	18 G 0,75	19	15,9	220,0	420,0
21648	20 G 0,75	19	16,8	249,0	450,0
21649	25 G 0,75	19	19,6	313,0	579,0
21650	30 G 0,75	19	19,8	470,0	630,0
21651	36 G 0,75	19	21,5	500,0	745,0
21652	2 x 1	18	8,8	50,0	120,0
21653	3 G 1	18	9,2	60,0	135,0
21654	4 G 1	18	9,8	73,0	173,0
21655	5 G 1	18	10,5	81,0	187,0
21656	7 G 1	18	12,1	114,0	240,0
21657	12 G 1	18	14,7	186,0	360,0
21658	18 G 1	18	17,1	254,0	498,0
21659	20 G 1	18	18,0	322,0	568,0
21660	25 G 1	18	20,9	377,0	670,0
21661	30 G 1	18	21,2	429,0	774,0
21662	36 G 1	18	22,8	516,0	895,0
21663	41 G 1	18	24,6	610,0	1032,0
21664	50 G 1	18	27,1	690,0	1160,0
21665	65 G 1	18	30,7	852,0	1660,0
21666	2 x 1,5	16	9,7	64,0	145,0
21667	3 G 1,5	16	10,1	84,0	168,0
21668	4 G 1,5	16	11,0	99,0	217,0
21669	5 G 1,5	16	11,8	129,0	235,0
21670	7 G 1,5	16	14,0	148,0	325,0
21671	12 G 1,5	16	16,6	279,0	481,0
21672	18 G 1,5	16	19,7	393,0	675,0
21673	25 G 1,5	16	24,1	584,0	927,0
21674	30 G 1,5	16	24,4	607,0	1025,0
21675	36 G 1,5	16	26,6	702,0	1210,0
21676	42 G 1,5	16	28,7	829,0	1441,0
21677	50 G 1,5	16	31,3	1025,0	1709,0
21678	61 G 1,5	16	34,3	1190,0	2025,0
21679	2 x 2,5	14	10,5	104,0	198,0
21680	3 G 2,5	14	11,1	140,0	284,0
21681	4 G 2,5	14	12,0	164,0	378,0
21682	5 G 2,5	14	12,9	190,0	423,0
21683	7 G 2,5	14	15,6	236,0	486,0
21684	12 G 2,5	14	18,6	390,0	756,0
21685	18 G 2,5	14	22,3	607,0	1127,0
21686	20 G 2,5	14	23,7	661,0	1210,0
21687	25 G 2,5	14	27,4	796,0	1530,0
21688	4 G 4	12	13,9	222,0	448,0
21689	5 G 4	12	15,2	328,0	533,0
21690	7 G 4	12	18,1	360,0	678,0
21691	4 G 6	10	15,6	305,0	636,0
21692	5 G 6	10	17,3	441,0	772,0
21693	7 G 6	10	20,9	505,0	1028,0
21694	4 G 10	8	20,0	485,0	1052,0
21695	5 G 10	8	22,3	610,0	1096,0
21696	7 G 10	8	27,1	820,0	1530,0
21697	4 G 16	6	23,1	840,0	1386,0
21698	5 G 16	6	25,9	1050,0	1759,0
21699	7 G 16	6	31,3	1510,0	2087,0

Dimensions and specifications may be changed without prior notice. (RN05)

SUPER-PAAR-TRONIC 340-C-PUR

Cable for drag chains, halogen-free, meter marking, EMC-preferred type

Technical data

- Special drag chain cable, stranded in pairs, to UL-Style 20233
- **Temperature range**
  flexing -30°C to +80°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  300 V
- **Test voltage**
  core/core 1500 V
  core/screen 1000 V
- **Mutual capacitance** at 800 Hz
  core/core approx. 60 pF/m
- **Coupling resistance**
  max. 250 Ohm/km
- **Minimum bending radius**
  flexing
  0,14 - 0,25 mm²: 7,5x outer Ø
  0,34 - 1 mm²: 10x outer Ø
  fixed installation
  0,14 - 0,25 mm²: 4x outer Ø
  0,34 - 1 mm²: 5x outer Ø

Cable structure

- Bare copper conductor, extra fine wire from 0,5 mm² acc. to DIN VDE 0295 cl.6 / IEC 60228 cl.6
- Conductor construction:
  0,14 mm² approx. 18x0,1 mm
  0,25 mm² approx. 32x0,1 mm
  0,34 mm² approx. 42x0,1 mm
- Core insulation of PP
- Core identification to DIN 47100
- Cores stranded in pairs, pairs stranded torsion-free in layers with optimal selected lay length
- Foil wrapping
- Tinned copper braided screen, approx. coverage 85%
- Fleece wrapping
- Outer sheath of **full polyurethane** compound type TMPU acc. to DIN VDE 0207-363-10-2 / DIN EN 50363-10-2 and acc. to UL Std.1581 tab.50.227
- Sheath colour: grey (RAL 7001)
- With meter marking

Properties

- Resistant to weather, ozone, UV-radiation, solvents, acids, alkalis, hydraulic liquidity
- Halogen-free
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2 / UL VW-1 / CSA FT1
- Oil resistance acc. to DIN VDE 0473-811-404/DIN EN 60811-404

Note

- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.

Advantages

- High tear, abrasion and impact resistance, even at low temperatures

Application

Stranded in pairs, these fully-screened special drag chain cables can also be used where external, high-frequency interference influences pulse transfer. They are used for permanently flexible stresses in machine and tool building, in robot technology, on constantly moving machine components and for extended use in multi-shift operations. This two-approvals single-core cable is preferred for use in export-oriented mechanical engineering, in machine tools, production lines and systems engineering. Guaranteed extended use in multi-shift operations with extremely high bending stresses. For applications which go beyond standard solutions we recommend for our especially developed enquiry sheet for energy guiding systems. For use in cable drag chains please note installation instruction. Further technical details see selection table for drag chain cables, see chapter "Technical Information".

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.pairs x no.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
49536	1 x 2 x 0,14	26	4,2	13,0	24,0
49537	2 x 2 x 0,14	26	5,9	19,2	41,0
49538	3 x 2 x 0,14	26	6,2	23,3	52,0
49539	4 x 2 x 0,14	26	6,4	27,0	59,0
49540	5 x 2 x 0,14	26	7,0	37,6	72,0
49541	6 x 2 x 0,14	26	7,3	49,2	89,0
49542	8 x 2 x 0,14	26	8,5	54,6	107,0
49543	10 x 2 x 0,14	26	9,8	60,0	116,0
49830	1 x 2 x 0,25	24	4,7	14,0	26,0
49831	2 x 2 x 0,25	24	6,6	32,0	61,0
49832	3 x 2 x 0,25	24	7,0	38,4	70,0
49833	4 x 2 x 0,25	24	7,5	43,2	82,0
49834	5 x 2 x 0,25	24	8,3	51,5	99,0
49835	6 x 2 x 0,25	24	8,9	71,8	126,0
49836	8 x 2 x 0,25	24	10,5	74,4	147,0
49837	10 x 2 x 0,25	24	11,7	90,0	179,0
49838	14 x 2 x 0,25	24	12,7	111,2	210,0
49839	1 x 2 x 0,34	22	5,0	20,0	35,0
49840	2 x 2 x 0,34	22	7,0	41,0	80,0
49841	3 x 2 x 0,34	22	7,4	52,2	100,0
49842	4 x 2 x 0,34	22	8,0	59,1	118,0
49843	5 x 2 x 0,34	22	8,8	67,0	134,0
49844	6 x 2 x 0,34	22	9,7	86,4	162,0
49845	8 x 2 x 0,34	22	11,5	107,5	214,0
49846	10 x 2 x 0,34	22	12,6	131,0	270,0

Part no.	No.pairs x no.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
49847	14 x 2 x 0,34	22	13,8	150,0	304,0
49848	1 x 2 x 0,5	20	5,7	22,5	47,0
49849	2 x 2 x 0,5	20	8,2	53,0	100,0
49850	3 x 2 x 0,5	20	8,7	72,8	131,0
49851	4 x 2 x 0,5	20	9,7	75,6	149,0
49852	5 x 2 x 0,5	20	10,2	85,7	169,0
49853	6 x 2 x 0,5	20	11,4	103,0	181,0
49854	8 x 2 x 0,5	20	13,8	148,4	274,0
49855	10 x 2 x 0,5	20	15,0	180,0	332,0
49856	14 x 2 x 0,5	20	16,6	218,3	390,0
49857	1 x 2 x 0,75	19	6,2	35,2	56,0
49858	2 x 2 x 0,75	19	9,0	61,4	102,0
49859	3 x 2 x 0,75	19	9,8	87,1	144,0
49860	4 x 2 x 0,75	19	10,9	95,2	160,0
49861	5 x 2 x 0,75	19	12,1	115,0	193,0
49862	6 x 2 x 0,75	19	13,2	137,1	216,0
49863	8 x 2 x 0,75	19	15,6	184,4	327,0
49864	10 x 2 x 0,75	19	17,6	259,8	451,0
49865	14 x 2 x 0,75	19	19,0	318,4	521,0
49866	1 x 2 x 1	18	6,7	42,0	64,0
49867	2 x 2 x 1	18	10,1	73,0	120,0
49868	3 x 2 x 1	18	10,9	93,6	160,0
49869	4 x 2 x 1	18	12,0	117,8	184,0
49870	5 x 2 x 1	18	13,5	139,0	217,0

Dimensions and specifications may be changed without prior notice. (RN05)

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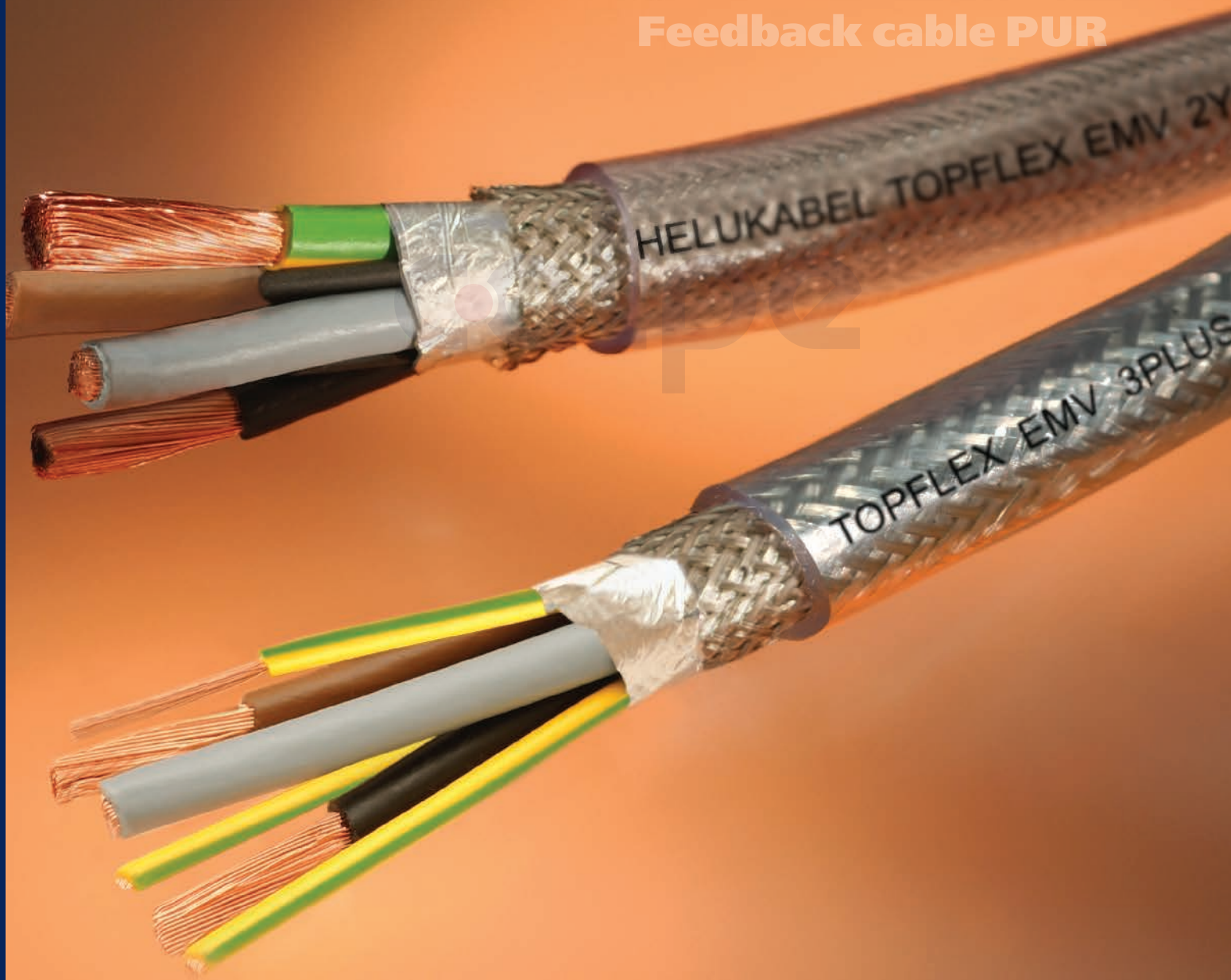
Feedback cable PUR



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MOTOR, SERVO AND FEEDBACK CABLES

TOPFLEX® -EMV-2YSLCY-J

for power supply connections to frequency converters, 0,6/1 kV, double screened, meter marking

Technical data

- Special motor power supply cable for frequency converters adapted to DIN VDE 0250
- **Temperature range**
  flexing +5°C to +70°C
  fixed installation -40°C to +70°C
- **Nominal voltage**
  U_0/U 600/1000 V
- Max. permissible **operating voltage**
  - 3-Phase and single phase operation 700/1200 V
  - DC operation 900/1800 V
- **Test voltage**
  4000 V
- **Coupling resistance**
  acc. to different cross sections
  max. 250 Ohm/km
- **Minimum bending radius**
  flexing for cable Ø:
  up to 12 mm: 10x cable Ø
  > 12 mm: 15x cable Ø
  fixed installation 4x cable Ø
- **Radiation resistance**
  up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper conductor, to DIN VDE 0295 cl.5, fine wire, BS 6360 cl.5, IEC 60228 cl.5
- Core insulation of polyethylene (PE)
- Core identification BN, BK, GY
- GN-YE conductor
- Cores stranded in concentric layers
- 1. Screen with special aluminium film
  2. Tinned copper braided screen, approx. 85% coverage
- Outer sheath of special PVC
- Sheath colour: transparent
- With meter marking

Note

- G = with GN-YE conductor
- **) The current carrying capacity for permanent operation at ambient temperature of 30°C. For deviating ambient temperatures the conversion factors should be used and for further see the indication in DIN VDE 0298-4.
- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Properties

- Low mutual capacitance
- Low coupling resistance for high electromagnetic compatibility
- This screened motor supply cable with low mutual capacitance of the single cores because of the special PE core insulation and low screen capacitance enable a low-loss transmission of the power compared to PVC-sheathed connecting cables
- Due to the optimal screening an interference-free operation of frequency converters is obtained
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- PVC self-extinguishing and flame retardant acc. to DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2 (equivalent DIN VDE 0472 part 804 test method B)
- Meets EMC requirements acc. to EN 55011 and DIN VDE 0875 part 11

Application

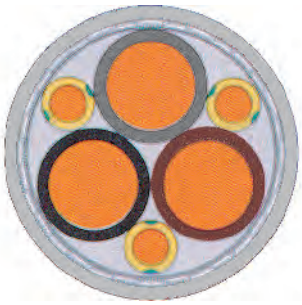
As a supply and connecting cable for medium mechanical stresses in fixed installations and forced movements in dry, moist and wet environments, not however for outdoor applications. Used in the automotive and food industries, environmental technology, packaging industry, chemical industry.
EMC = Electromagnetic compatibility
To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

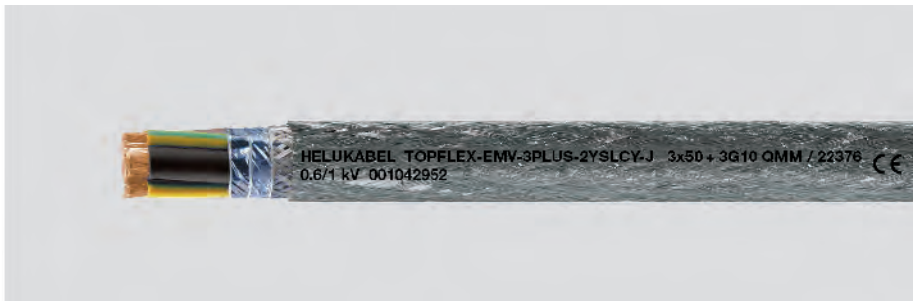
Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Mutual capacitance Core / Core app. nF / km	Core / Screen app. nF / km	Coupling resistance at 1 MHz Ohm/km	at 30 MHz Ohm/km	Power ratings **) with 3 loaded cores in Amperes	Cop. weight kg / km	Weight app. kg / km	AWG-No.
22084	4 G 1,5	10,1	70	110			18	95,0	230,0	16
22085	4 G 2,5	11,9	80	130	18	210	26	150,0	300,0	14
22086	4 G 4	13,6	90	150	11	210	34	235,0	485,0	12
22087	4 G 6	15,3	90	150	6	150	44	320,0	633,0	10
22088	4 G 10	19,4	120	200	7	180	61	533,0	863,0	8
22089	4 G 16	22,4	120	210	9	190	82	789,0	1291,0	6
22090	4 G 25	26,7	140	230	4	95	108	1236,0	1862,0	4
22091	4 G 35	29,3	150	260	3	85	135	1662,0	2611,0	2
22092	4 G 50	34,1	190	320	2	40	168	2345,0	2955,0	1
22093	4 G 70	39,0	190	320	2	45	207	3196,0	3953,0	2/0
22094	4 G 95	44,0	250	410	1	50	250	4316,0	5304,0	3/0
22095	4 G 120	48,7					292	5435,0	6604,0	4/0
22096	4 G 150	54,2					335	6394,0	7043,0	300 kcmil
22097	4 G 185	60,6					382	7639,0	8384,0	350 kcmil

Dimensions and specifications may be changed without prior notice. (RD01)

TOPFLEX®-EMV-3 PLUS 2YSLCY-J

for power supply connections to frequency converters, 0.6/1 kV, double screened, meter marking





Technical data

- Special motor power supply cable for frequency converters adapted to DIN VDE 0250
- **Temperature range**
  flexing +5°C to +70°C
  fixed installation -40°C to +70°C
- **Nominal voltage**
  U_0/U 600/1000 V
- Max. permissible **operating voltage**
  - 3-Phase and single phase operation 700/1200 V
  - DC operation 900/1800 V
- **Test voltage**
  4000 V
- **Coupling resistance**
  acc. to different cross sections
  max. 250 Ohm/km
- **Minimum bending radius**
  flexing for cable Ø:
  up to 12 mm: 10x cable Ø
  > 12 mm: 15x cable Ø
  fixed installation 4x cable Ø
- **Radiation resistance**
  up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper conductor, to DIN VDE 0295 cl.5, fine wire, BS 6360 cl.5, IEC 60228 cl.5
- Core insulation of polyethylene (PE)
- Core identification BK, BN, GY
- GN-YE conductor (divided into 3)
- 3+3-core structure
- Cores stranded in concentric layers
- 1. Screen with special aluminium film
  2. Tinned copper braided screen, approx. 85% coverage
- Outer sheath of special PVC
- Sheath colour: transparent
- With meter marking

Note

- **) The current carrying capacity for permanent operation at ambient temperature of 30°C. For deviating ambient temperatures the conversion factors should be used and for further see the indication in DIN VDE 0298-4.
- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Properties

- Low mutual capacitance
- Low coupling resistance for high electromagnetic compatibility
- The minimum cross section of 0,75 mm² meets the requirements of DIN EN 60204-1
- The 3 PLUS-construction of motor power supply cables features a symmetrical 3-core design, improved in terms of EMC characteristics comparing favorably with a 4-core version. The protective conductor PE, divided into 3 is uniformly stranded in the interstices. This enables an extremely concentric structure.
- This screened motor supply cable with low mutual capacitance of the single cores because of the special PE core insulation and low screen capacitance enable a low-loss transmission of the power compared to PVC-sheathed connecting cables
- Due to the optimal screening an interference-free operation of frequency converters is obtained
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- PVC self-extinguishing and flame retardant acc. to DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2 (equivalent DIN VDE 0472 part 804 test method B)
- Meets EMC requirements acc. to EN 55011 and DIN VDE 0875 part 11

Application

As a supply and connecting cable for medium mechanical stresses in fixed installations and forced movements in dry, moist and wet environments, not however for outdoor applications. Used in the automotive and food industries, environmental technology, packaging industry, chemical industry.
EMC = Electromagnetic compatibility
To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Coupling resistance at 1 MHz Ohm/km	Coupling resistance at 30 MHz Ohm/km	Power ratings **) with 3 loaded cores in Amperes	Cop. weight kg / km	Weight app. kg / km	AWG-No.
22368	3 x 1,5 + 3 G 0,25	9,2			18	86,0	140,0	16
22369	3 x 2,5 + 3 G 0,5	10,8	18	210	26	144,0	220,0	14
22370	3 x 4 + 3 G 0,75	12,3	11	210	34	224,0	323,0	12
22371	3 x 6 + 3 G 1	14,0	6	150	44	298,0	420,0	10
22372	3 x 10 + 3 G 1,5	17,6	7	180	61	491,0	615,0	8
22373	3 x 16 + 3 G 2,5	21,2	9	190	82	723,0	819,0	6
22374	3 x 25 + 3 G 4	24,5	4	95	108	1138,0	1325,0	4
22375	3 x 35 + 3 G 6	26,9	3	85	135	1535,0	1718,0	2
22376	3 x 50 + 3 G 10	32,5	2	40	168	2208,0	2399,0	1
22377	3 x 70 + 3 G 10	35,5	2	45	207	2871,0	3056,0	2/0
22378	3 x 95 + 3 G 16	40,1	1	50	250	3953,0	4162,0	3/0
22379	3 x 120 + 3 G 16	44,4			292	4836,0	5074,0	4/0
22380	3 x 150 + 3 G 25	49,3			335	5412,0	6128,0	300 kcmil
22381	3 x 185 + 3 G 35	55,1			382	6969,0	7189,0	350 kcmil
22382	3 x 240 + 3 G 42,5	60,0			453	8540,0	9540,0	500 kcmil

Dimensions and specifications may be changed without prior notice. (RD01)

TOPFLEX®-EMV-UV-2YSLCYK-J

for power supply connections to frequency converters, 0.6/1 kV, double screened, meter marking

Technical data

- Special motor power supply cable for frequency converters adapted to DIN VDE 0250
- **Temperature range**
  flexing -5°C to +70°C
  fixed installation -40°C to +70°C
- **Nominal voltage**
  U_0/U 600/1000 V
- Max. permissible **operating voltage**
  - 3-Phase and single phase operation 700/1200 V
  - DC operation 900/1800 V
- **Test voltage**
  4000 V
- **Coupling resistance**
  acc. to different cross sections
  max. 250 Ohm/km
- **Minimum bending radius**
  flexing for cable Ø:
  up to 12 mm: 10x cable Ø
  > 12 mm: 15x cable Ø
  fixed installation 4x cable Ø
- **Radiation resistance**
  up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper conductor, to DIN VDE 0295 cl.5, fine wire, BS 6360 cl.5, IEC 60228 cl.5
- Core insulation of polyethylene (PE)
- Core identificdation BN, BK, GY
- GN-YE conductor
- Cores stranded in concentric layers
- 1. Screen with special aluminium film
  2. Tinned copper braided screen, approx. 85% coverage
- Outer sheath of special PVC
- Sheath colour: black (RAL 9005)
- With meter marking

Note

- **) The current carrying capacity for permanent operation at ambient temperature of 30°C. For deviating ambient temperatures the conversion factors should be used and for further see the indication in DIN VDE 0298-4.

Properties

- Low mutual capacitance
- Low coupling resistance for high electromagnetic compatibility
- UV-resitant
- Outdoor application
- This screened motor supply cable with low mutual capacitance of the single cores because of the special PE core insulation and low screen capacitance enable a low-loss transmission of the power compared to PVC-sheathed connecting cables
- Due to the optimal screening an interference-free operation of frequency converters is obtained
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- PVC self-extinguishing and flame retardant acc. to DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2 (equivalent DIN VDE 0472 part 804 test method B)
- Meets EMC requirements acc. to EN 55011 and DIN VDE 0875 part 11
- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Application

As a supply and connecting cable for medium mechanical stresses in fixed installations and forced movements in dry, moist and wet environments and for outdoor applications, possible for installation in underground at 4G16 mm². Used in the automotive and food industries, environmental technology, packaging industry, chemical industry.
EMC = Electromagnetic compatibility
To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Mutual capacitance Core / Core app. nF / km	Core / Screen app. nF / km	Coupling resistance at 1 MHz Ohm/km	at 30 MHz Ohm/km	Power ratings **) with 3 loaded cores in Amperes	Cop. weight kg / km	Weight app. kg / km	AWG-No.
22234	4 G 1,5	10,1	70	110			18	95,0	230,0	16
22235	4 G 2,5	11,9	80	130	18	210	26	150,0	300,0	14
22236	4 G 4	13,6	90	150	11	210	34	235,0	485,0	12
22237	4 G 6	15,3	90	150	6	150	44	320,0	630,0	10
22238	4 G 10	19,4	120	200	7	180	61	533,0	860,0	8
22239	4 G 16	22,4	120	210	9	190	82	789,0	1290,0	6
22240	4 G 25	26,7	140	230	4	95	108	1236,0	1860,0	4
22241	4 G 35	29,3	150	260	3	85	135	1662,0	2610,0	2
22242	4 G 50	34,1	190	320	2	40	168	2345,0	2950,0	1
22243	4 G 70	39,0	190	320	2	45	207	3196,0	3950,0	2/0
22244	4 G 95	44,0	250	410	1	50	250	4316,0	5300,0	3/0
22245	4 G 120	48,7					292	5435,0	6600,0	4/0
22246	4 G 150	54,2					335	6394,0	7040,0	300 kcmil
22247	4 G 185	60,6					382	7639,0	8380,0	350 kcmil

Dimensions and specifications may be changed without prior notice. (RD01)

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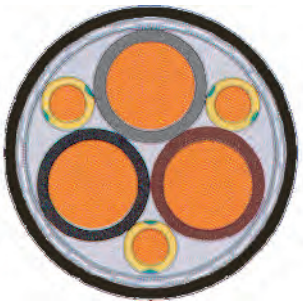
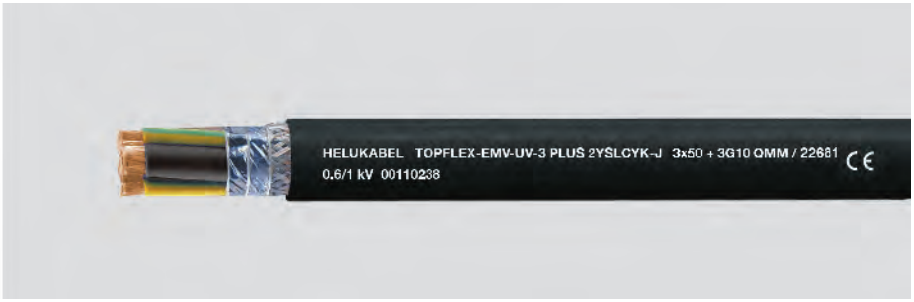
TOPFLEX®-EMV-UV-3 PLUS 2YSLCYK-J

for power supply connections to frequency converters, 0,6/1 kV, double screened, meter marking





Technical data

- Special motor power supply cable for frequency converters adapted to DIN VDE 0250
- **Temperature range**
  flexing -5°C up to +70°C
  fixed installation -40°C up to +70°C
- **Nominal voltage**
  U_0/U 600/1000 V
- Max. permissible **operating voltage**
  - 3-Phase and single phase operation 700/1200 V
  - DC operation 900/1800 V
- **Test voltage**
  4000 V
- **Coupling resistance**
  acc. to different cross sections
  max. 250 Ohm/km
- **Minimum bending radius**
  flexing for cable Ø:
  up to 12 mm: 10x cable Ø
  > 12 mm: 15x cable Ø
  fixed installation 4x cable Ø
- **Radiation resistance**
  up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper conductor, to DIN VDE 0295 cl.5, fine wire, BS 6360 cl.5, IEC 60228 cl.5
- Core insulation of polyethylene (PE)
- Core identification BK, BN, GY
- GN-YE conductor (divided into 3)
- 3+3 core design
- Cores stranded in concentric layers
- 1. Screen with special aluminium film
  2. Tinned copper braided screen, approx. 85% coverage
- Outer sheath of special PVC
- Sheath colour: black (RAL 9005)
- With meter marking

Note

- **) The current carrying capacity for permanent operation at ambient temperature of 30°C. For deviating ambient temperatures the conversion factors should be used and for further see the indication in DIN VDE 0298-4.
- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Properties

- Low mutual capacitance
- Low coupling resistance for high electromagnetic compatibility
- Due to the optimal screening an interference-free operation of frequency converters is obtained
- The 3 PLUS-construction of motor power supply cables features a symmetrical 3-core design, improved in terms of EMC characteristics comparing favorably with a 4-core version. The protective conductor PE, divided into 3 is uniformly stranded in the interstices. This enables an extremely concentric structure.
- The minimum cross section of 0,75 mm² meets the requirements of DIN EN 60204-1
- UV-resistant
- Outdoor application
- This screened motor supply cable with low mutual capacitance of the single cores because of the special PE core insulation and low screen capacitance enable a low-loss transmission of the power compared to PVC-sheathed connecting cables
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- PVC self-extinguishing and flame retardant acc. to DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2 (equivalent DIN VDE 0472 part 804 test method B)
- Meets EMC requirements acc. to EN 55011 and DIN VDE 0875 part 11

Application

As a supply and connecting cable for medium mechanical stresses in fixed installations and forced movements in dry, moist and wet environments and for outdoor applications, possible for installation in underground at 3x16+3G2,5 mm². Used in the automotive and food industries, environmental technology, packaging industry, chemical industry.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Continuation ▸

TOPFLEX®-EMV-UV-3 PLUS 2YSLCYK-J

for power supply connections to frequency converters, 0,6/1 kV, double screened, meter marking

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Coupling resistance at 1 MHz Ohm/km	at 30 MHz Ohm/km	Power ratings **) with 3 loaded cores in Amperes	Cop. weight kg / km	Weight app. kg / km	AWG-No.
22673	3 x 1,5 + 3 G 0,25	9,2			18	86,0	140,0	16
22674	3 x 2,5 + 3 G 0,5	10,8	18	210	26	144,0	220,0	14
22675	3 x 4 + 3 G 0,75	12,3	11	210	34	224,0	323,0	12
22676	3 x 6 + 3 G 1	14,0	6	150	44	298,0	420,0	10
22677	3 x 10 + 3 G 1,5	17,6	7	180	61	491,0	615,0	8
22678	3 x 16 + 3 G 2,5	21,2	9	190	82	723,0	819,0	6
22679	3 x 25 + 3 G 4	24,5	4	95	108	1138,0	1325,0	4
22680	3 x 35 + 3 G 6	26,9	3	85	135	1535,0	1718,0	2
22681	3 x 50 + 3 G 10	32,5	2	40	168	2208,0	2399,0	1
22682	3 x 70 + 3 G 10	35,5	2	45	207	2871,0	3056,0	2/0
22683	3 x 95 + 3 G 16	40,1	1	50	250	3953,0	4162,0	3/0
22684	3 x 120 + 3 G 16	44,4			292	4836,0	5075,0	4/0
22685	3 x 150 + 3 G 25	49,3			335	5412,0	6128,0	300 kcmil
22686	3 x 185 + 3 G 35	55,1			382	6969,0	7189,0	350 kcmil
22687	3 x 240 + 3 G 42,5	60,0			453	8540,0	9540,0	500 kcmil

Dimensions and specifications may be changed without prior notice. (RD01)

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HEAT-RESISTANT CABLES

SiHF

Silicone mulitcore cable, flexible, halogen-free, meter marking

Technical data

- Special silicone multicore cable with higher heat-resistance range adapted to DIN VDE 0250-1 and DIN VDE 0285-525-2-83 / DIN EN 50525-2-83
- **Temperature range**
  -60°C to +180°C
  (for short time +220°C)
- **Temperature limit** at the conductor in operation +180°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  2000 V
- **Breakdown voltage**
  min. 5000 V
- **Insulation resistance**
  min. 200 MOhm x km
- **Power rating**
  ambient temperature up to +145°C to DIN VDE 0100
  for higher temperatures valid:
  150°C - load value 100%
  155°C - load value 91%
  160°C - load value 82%
  165°C - load value 71%
  170°C - load value 58%
  175°C - load value 41%
- **Minimum bending radius**
  flexing 7,5x cable Ø
  fixed installation 4x cable Ø
- **Radiation resistance**
  up to 20x10⁶ cJ/kg (up to 20 Mrad)

Cable structure

- Tinned copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / BS 6360 cl.5 / IEC 60228 cl.5
- Core insulation of silicone
- Core identification to DIN VDE 0293-308
  - up to 5 cores coloured
  - from 6 cores, black with continuous white numbering
- GN-YE conductor, 3 cores and above
- Cores stranded in layers with optimal lay length
- Outer sheath of silicone
- Sheath colour: preferably redbrown
- With meter marking

Properties

- **Advantages**
  hardly changes of dielectric strength and the insulation resistance also at high temperatures, high ignition or flash point, leave in case of fire an insulating layer of SiO_2
- **Resistant to**
  high molecular oils, fats from vegetables and animals, alcohols, plasticizers and clophenes, diluted acids, lyes and salt dissolution, oxidation substances, atmospheric influences, lake water, oxygen, ozone
- For laying as a fixed installation only in open or ventilated pipe systems as well as in ducts. Otherwise the mechanical properties of the silicone are reduced by the enclosed air at temperatures exceeding 90°C.

Tests

- Halogen-free acc. to DIN VDE 0482-267 / DIN EN 50267-2-2 / IEC 60754-2
- Behaviour in fire
  no flame propagation acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

Note

- G = with GN-YE conductor
  x = without GN-YE conductor (OB)
- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- Screened analogue type:
  SIHF-C-Si

Application

Silicone cables were evolved for use wherever insulation is subjected to extreme temperature changes. They are heat-resistant for permanent temperature up to +180°C, for short time operation up to +220°C. The good performance of the environmental resistant properties means that silicone cables can be used at temperatures down to -60°C. Silicone cables are halogen-free cables and are especially suited for installation in power stations. They have also found their uses in the steel producing industries, aviation industry, ship building as well as in ceramic, glass and cement factories. Due to elastical characteristic of core insulations, these are used as flexible connection cable.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
22989	2 x 0,5	5,6	9,6	42,0	20
22990	3 G 0,5	5,9	14,5	44,0	20
22940	3 x 0,5	5,9	14,5	44,0	20
22991	4 G 0,5	6,4	19,3	58,0	20
22941	4 x 0,5	6,4	19,3	58,0	20
22992	5 G 0,5	7,3	24,0	62,0	20
22942	5 x 0,5	7,3	24,0	62,0	20
22993	6 G 0,5	8,3	28,9	79,0	20
22994	7 G 0,5	8,1	33,7	85,0	20
22995	8 G 0,5	8,9	38,4	99,0	20
22996	10 G 0,5	10,0	48,1	124,0	20
22997	12 G 0,5	10,6	57,6	141,0	20
22998	16 G 0,5	12,1	76,7	186,0	20
22999	18 G 0,5	12,7	86,5	211,0	20
23000	25 G 0,5	15,2	120,0	271,0	20

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
23001	2 x 0,75	6,4	14,4	53,0	19
23002	3 G 0,75	6,8	21,6	63,0	19
23104	3 x 0,75	6,8	21,6	63,0	19
23003	4 G 0,75	7,6	29,0	83,0	19
23105	4 x 0,75	7,6	29,0	83,0	19
23004	5 G 0,75	8,5	36,0	101,0	19
22943	5 x 0,75	8,5	36,0	101,0	19
23005	6 G 0,75	9,2	43,0	115,0	19
23006	7 G 0,75	9,2	50,0	124,0	19
23127	8 G 0,75	9,9	57,7	138,0	19
23128	10 G 0,75	11,1	72,1	156,0	19
23129	12 G 0,75	12,2	86,5	185,0	19
23130	16 G 0,75	13,7	115,2	218,0	19
23131	18 G 0,75	14,6	129,7	260,0	19
23132	25 G 0,75	17,2	180,0	370,0	19

Continuation ▸

SiHF

Silicone mulitcore cable, flexible, halogen-free, meter marking

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
23007	2 x 1	6,6	19,0	59,0	18
23008	3 G 1	7,0	29,0	77,0	18
22944	3 x 1	7,0	29,0	77,0	18
23009	4 G 1	7,8	38,0	94,0	18
22945	4 x 1	7,8	38,0	94,0	18
23010	5 G 1	8,8	48,0	115,0	18
22946	5 x 1	8,8	48,0	115,0	18
23011	6 G 1	9,5	58,0	134,0	18
23012	7 G 1	9,5	67,0	144,0	18
23133	8 G 1	10,3	76,7	175,0	18
24000	9 G 1	11,5	86,0	196,0	18
23134	10 G 1	11,5	96,1	216,0	18
23135	12 G 1	12,5	115,2	231,0	18
23136	16 G 1	14,2	153,5	302,0	18
23137	18 G 1	15,1	172,9	340,0	18
23138	25 G 1	18,0	240,0	431,0	18
23013	2 x 1,5	7,6	29,0	81,0	16
23014	3 G 1,5	8,0	43,0	98,0	16
22947	3 x 1,5	8,0	43,0	98,0	16
23015	4 G 1,5	8,7	58,0	122,0	16
22948	4 x 1,5	8,7	58,0	122,0	16
23016	5 G 1,5	9,6	72,0	147,0	16
22949	5 x 1,5	9,6	72,0	147,0	16
23017	6 G 1,5	10,4	86,0	173,0	16
23018	7 G 1,5	10,4	101,0	187,0	16
23019	8 G 1,5	11,2	114,0	213,0	16
23020	10 G 1,5	13,0	116,0	263,0	16
23021	12 G 1,5	13,9	173,0	314,0	16
23022	14 G 1,5	14,7	202,0	379,0	16
23023	16 G 1,5	16,2	231,0	445,0	16
23024	18 G 1,5	17,0	260,0	506,0	16
23025	20 G 1,5	17,5	288,0	566,0	16
23026	24 G 1,5	20,4	346,0	722,0	16

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
23027	2 x 2,5	8,8	48,0	134,0	14
23028	3 G 2,5	9,7	72,0	152,0	14
23029	4 G 2,5	10,6	96,0	188,0	14
23030	5 G 2,5	11,6	120,0	228,0	14
23139	6 G 2,5	12,6	144,0	304,0	14
23032	7 G 2,5	12,6	168,0	320,0	14
23140	8 G 2,5	13,6	192,2	373,0	14
23141	10 G 2,5	15,5	240,1	450,0	14
23033	12 G 2,5	17,1	288,0	502,0	14
23142	16 G 2,5	19,6	384,0	659,0	14
23143	18 G 2,5	20,6	432,2	761,0	14
23144	25 G 2,5	24,4	600,0	1007,0	14
23034	2 x 4	10,8	77,0	180,0	12
23035	3 G 4	11,4	115,0	224,0	12
23036	4 G 4	12,5	154,0	295,0	12
23037	5 G 4	13,9	192,0	359,0	12
23039	7 G 4	15,6	269,0	479,0	12
23040	2 x 6	12,4	115,0	210,0	10
23041	3 G 6	13,2	173,0	270,0	10
23042	4 G 6	14,8	230,0	341,0	10
23043	5 G 6	16,5	288,0	432,0	10
23045	7 G 6	18,0	403,0	552,0	10
23046	2 x 10	16,2	192,0	400,0	8
23047	3 G 10	17,2	288,0	507,0	8
23048	4 G 10	19,4	384,0	644,0	8
23049	5 G 10	21,4	480,0	788,0	8
23145	7 G 10	23,4	672,2	1151,0	8
23050	2 x 16	18,0	308,0	591,0	6
23051	3 G 16	19,3	462,0	749,0	6
23052	4 G 16	21,4	616,0	950,0	6
23053	5 G 16	24,0	770,0	1204,0	6
23146	7 G 16	26,4	1075,3	1682,0	6
23054	2 x 25	22,0	480,0	700,0	4
23055	3 G 25	23,4	720,0	1100,0	4
23056	4 G 25	26,3	960,0	1500,0	4
23057	2 x 35	24,6	672,0	1100,0	2
23058	3 G 35	26,3	1008,0	1500,0	2
23059	4 G 35	29,1	1344,0	2100,0	2

Dimensions and specifications may be changed without prior notice. (RE01)

SiHF-C-Si

Silicone multicore cable, halogen-free, Cu-screened, EMC-preferred type, meter marking

Technical data

- Special silicone-insulated cable with higher heat-resistance adapted to DIN VDE 0250-1 and DIN VDE 0285-525-2-83 / DIN EN 50525-2-83
- **Temperature range**
  -60°C to +180°C
  (for short time +220°C)
- **Temperature limit**
  at the conductor in operation +180°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  2000 V
- **Breakdown voltage**
  min. 5000 V
- **Insulation resistance**
  min. 200 MOhm x km
- **Power rating**
  at ambient temperatures up to +145°C
  acc. to DIN VDE 0100
  150°C - load value 100%
  155°C - load value 91%
  160°C - load value 82%
  165°C - load value 71%
  170°C - load value 58%
  175°C - load value 41%
- **Minimum bending radius**
  flexing 10x cable Ø
  fixed installation 5x cable Ø
- **Coupling resistance**
  max. 250 Ohm/km
- **Radiation resistance**
  up to 20x10⁶ cJ/kg (up to 20 Mrad)

Cable structure

- Tinned copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / BS 6360 cl.5 / IEC 60228 cl.5
- Core insulation of silicone
- Core identification to DIN VDE 0293-308
  - up to 5 cores coloured
  - from 6 cores, black with continuous white numbering
- GN-YE conductor, 3 cores and above
- Cores stranded in layers with optimal lay length
- Inner sheath of silicone
- Tinned copper braided screen, approx. 85% coverage
- Outer sheath of silicone
- Sheath colour: preferentially redbrown
- With meter marking

Properties

- **Resistant to**
  high molecular oils, fats from vegetables and animals, alcohols, plasticizers and clophenes, diluted acids, lyes and salt dissolution, oxidation substances, atmospheric influences, lake water, oxygen, ozone
- For laying as a fixed installation only in open or ventilated pipe systems as well as in ducts. Otherwise the mechanical properties of the silicone are reduced by the enclosed air at temperatures exceeding 90°C.

Tests

- Halogen-free acc. to DIN VDE 0482-267 / DIN EN 50267-2-2 / IEC 60754-2
- Behaviour in fire
  no flame propagation acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

Note

- G = with GN-YE conductor
  x = without GN-YE conductor
- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- Unscreened analoguetype:
  SiHF

Application

Silicone-rubber-insulated cables are used for all applications where the cable insulation is subjected to high temperature fluctuations. These cables are heat-resistant for continuous use at temperatures up to +180°C, as well as for short periods of time at +220°C. Silicone-rubber-insulated cables can also be used at low temperatures down to -60°C because of the excellent weathering resistance of the material. These cables are halogen-free and hence are particularly suitable for applications in iron and steel works, rolling mills, foundries, in aircraft construction and ship building, as well as in cement, glass and ceramic plants. Silicone-rubber-insulated cables have demonstrated proven applications in projector and high-power lighting fixtures as well as all types of heating equipment. An interference-free transmission of signals and pulse is assured by the high screening density. The ideal interference-protected silicone multicore flexible cable for such applications as given above.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
23151	2 x 0,5	8,0	55,5	101,0	20
23152	3 G 0,5	8,3	60,8	118,0	20
23153	4 G 0,5	9,1	66,5	131,0	20
23154	5 G 0,5	9,9	81,6	153,0	20
23155	7 G 0,5	10,9	92,2	173,0	20
23156	10 G 0,5	12,8	124,0	242,0	20
23157	12 G 0,5	13,5	134,4	263,0	20
23158	16 G 0,5	15,1	170,2	326,0	20
23159	18 G 0,5	15,9	181,0	351,0	20
23291	25 G 0,5	18,5	230,1	348,0	20

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
23160	2 x 0,75	9,0	61,4	124,0	19
23161	3 G 0,75	9,4	69,1	136,0	19
23162	4 G 0,75	10,4	86,7	159,0	19
23163	5 G 0,75	11,3	95,2	180,0	19
23164	7 G 0,75	12,0	113,3	212,0	19
23165	10 G 0,75	13,9	165,2	306,0	19
23166	12 G 0,75	15,2	180,3	333,0	19
23167	16 G 0,75	16,9	212,2	418,0	19
23168	18 G 0,75	18,0	282,1	453,0	19
23292	25 G 0,75	20,8	297,4	468,0	19

Continuation ▸

SiHF-C-Si

Silicone multicore cable, halogen-free, Cu-screened, EMC-preferred type, meter marking

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
23169	2 x 1	9,4	66,7	132,0	18
23170	3 G 1	9,8	86,2	153,0	18
23171	4 G 1	11,1	96,8	173,0	18
23172	5 G 1	12,0	108,3	202,0	18
23173	7 G 1	12,7	141,2	243,0	18
23174	10 G 1	14,7	190,0	238,0	18
23175	12 G 1	15,8	209,8	371,0	18
23176	16 G 1	17,4	251,8	468,0	18
23177	18 G 1	18,5	297,4	526,0	18
23293	25 G 1	21,8	329,0	559,0	18
23178	2 x 1,5	10,8	87,7	172,0	16
23179	3 G 1,5	11,2	103,5	198,0	16
23180	4 G 1,5	12,0	131,7	235,0	16
23181	5 G 1,5	12,8	148,5	281,0	16
23182	7 G 1,5	13,6	193,4	345,0	16
23183	10 G 1,5	14,7	268,5	482,0	16
23184	12 G 1,5	15,8	298,4	531,0	16
23185	16 G 1,5	17,4	362,3	662,0	16
23186	18 G 1,5	20,6	394,0	720,0	16
23294	25 G 1,5	24,2	488,2	791,0	16

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
23187	2 x 2,5	12,0	122,3	230,0	14
23188	3 G 2,5	12,9	147,7	275,0	14
23189	4 G 2,5	13,8	188,6	340,0	14
23190	5 G 2,5	14,8	214,9	394,0	14
23191	7 G 2,5	15,8	265,7	488,0	14
23192	4 G 4	16,0	294,0	520,0	12
23193	5 G 4	17,4	374,0	653,0	12
23150	2 x 6	15,8	171,0	350,0	20
23194	4 G 6	18,1	449,0	781,0	10
23195	5 G 6	20,0	563,0	982,0	10
23196	4 G 10	23,2	759,0	1294,0	8
23197	4 G 16	25,2	1180,0	1988,0	6
23198	4 G 25	31,0	1276,0	2995,0	4

Dimensions and specifications may be changed without prior notice. (RE01)

HELUTHERM® 145 MULTI

flexible, cross-linked, halogen-free, meter marking

Technical data

- Halogen-free control and connecting cable with increased heat resistance
- **Temperature range**
  flexing -35°C to +120°C
  fixed installation -55°C to +145°C
  in short-circuit +200°C
- **Nominal voltage**
  up to 1 mm² U_0/U 300/500 V
  from 1,5 mm² U_0/U 450/750 V
  with protected fixed installation
  from 1,5 mm² U_0/U 600/1000 V
- **Test voltage**
  3000 V
- **Minimum bending radius**
  flexing 8x cable Ø
  fixed installation 4x cable Ø
- **Caloric load values**
  see "Technical Information"
- **Current rating**
  see "Technical Information"
- **Approval**
  DNV GL

Cable structure

- Tinned copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation: cross-linked polyolefin-copolymer
- Core identification to DIN VDE 0293-308
  - up to 5 cores coloured
  - from 6 cores, black with continuous white numbering
- GN-YE conductor, 3 cores and above
- 1-core version - core colour BK or GN-YE
- Cores stranded in layers with optimal lay length
- Fleece wrapping
- Outer sheath: cross-linked polyolefin-copolymer
- Sheath colour: black
- With meter marking

Note

- G = with GN-YE conductor
  x = without GN-YE conductor
- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- Screened analogue type:
  HELUTHERM® 145 MULTI-C

Properties

- No flame propagation
- Good abrasion and notch resistance
- Good resistance to weathering
- Resistant to ozone
- Resistant to melting, even when in contact with a soldering iron with temperatures from 300°C to 380°C
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame test acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22
- Flame test acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- UV-resistant acc. to DIN EN ISO 4892-2

Application

These cross-linked and temperature resistant wiring and control cables with enhanced fire-behaviour properties are used for wiring up the lighting fixtures, heaters, electric machines, switching systems and distribution switchboards. A very long service life is also given on account of their excellent high-temperature stability. These cables exhibit good resistance to weathering as well as being very stable to temperature, moisture, ozone and UV radiation. These cables are therefore mainly used for traffic control systems and diverse outdoor applications. The development of smoke is low and no corrosive gases are liberated during combustion of these halogen-free cables in case of fire. The risk of toxic fumes is considerably less in the event of fire because the coloric load values is lower. Precious time can thus be won for a disciplined evacuation, and unnecessary loss of life can be prevented. The extent of the damage to costly control and monitoring systems and the concrete and steel structures of buildings and plant due to fire is reduced by this. Injuries to persons and damage to materials can be prevented. A lower conductor cross section is possible in certain circumstances because of the high thermal load and thus savings in the space and weight required can be made.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
52630	1 G 0,25	2,9	2,0	11,0	24
53376	1 x 0,25	2,9	2,0	11,0	24
53377	2 x 0,25	4,6	5,0	29,0	24
53378	3 G 0,25	4,9	7,0	34,0	24
53379	4 G 0,25	5,5	10,0	42,0	24
53380	5 G 0,25	5,8	12,0	47,0	24

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
53381	6 G 0,25	6,5	14,4	58,0	24
53382	7 G 0,25	6,9	16,8	64,0	24
53383	8 G 0,25	7,3	19,2	71,0	24
53384	10 G 0,25	8,1	24,0	84,0	24
53385	12 G 0,25	8,1	28,8	90,0	24
53386	14 G 0,25	8,6	33,6	102,0	24

Continuation ▶

HELUTHERM® 145 MULTI

flexible, cross-linked, halogen-free, meter marking

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app.kg / km	AWG-No.
53387	16 G 0,25	8,9	38,4	114,0	24
53388	19 G 0,25	10,1	45,6	132,0	24
53389	21 G 0,25	10,5	50,4	145,0	24
52631	1 G 0,5	3,2	4,8	15,7	20
53391	1 x 0,5	3,2	4,8	15,7	20
53392	2 x 0,5	5,3	10,0	39,6	20
53393	3 G 0,5	5,5	14,4	48,1	20
53394	4 G 0,5	5,9	19,2	51,0	20
53395	5 G 0,5	7,0	24,0	64,0	20
53396	6 G 0,5	7,4	29,0	74,0	20
53397	7 G 0,5	8,1	34,0	88,0	20
53398	8 G 0,5	8,6	38,4	102,0	20
53399	10 G 0,5	9,4	48,0	123,0	20
53400	12 G 0,5	10,0	58,0	135,0	20
53401	14 G 0,5	10,0	67,0	153,0	20
53402	16 G 0,5	10,7	76,8	176,0	20
53403	19 G 0,5	12,4	91,2	213,0	20
53404	21 G 0,5	13,0	100,8	234,0	20
53405	24 G 0,5	14,0	115,2	263,0	20
53406	25 G 0,5	14,0	120,0	269,0	20
53407	27 G 0,5	14,0	129,6	280,0	20
53408	30 G 0,5	14,6	144,0	311,0	20
53409	33 G 0,5	15,0	158,4	343,0	20
53410	37 G 0,5	17,0	177,6	392,0	20
52632	1 G 0,75	3,5	7,2	19,8	19
53411	1 x 0,75	3,5	7,2	19,8	19
53412	2 x 0,75	6,0	14,0	40,0	19
53413	3 G 0,75	6,4	22,0	53,0	19
53414	4 G 0,75	7,0	29,0	69,0	19
53415	5 G 0,75	7,7	36,0	86,0	19
53416	6 G 0,75	8,3	43,2	101,0	19
53417	7 G 0,75	9,1	50,4	117,0	19
53418	8 G 0,75	10,2	57,6	140,0	19
53419	10 G 0,75	11,1	72,0	167,0	19
53420	12 G 0,75	11,1	86,4	183,0	19
53421	14 G 0,75	11,7	100,8	212,0	19
53422	16 G 0,75	12,5	115,2	239,0	19
53423	19 G 0,75	14,0	136,8	290,0	19
53424	21 G 0,75	15,0	151,2	323,0	19
53425	24 G 0,75	16,0	172,8	364,0	19
53426	25 G 0,75	16,0	180,0	371,0	19
53427	27 G 0,75	16,0	194,4	387,0	19
53428	30 G 0,75	17,0	216,0	429,0	19
53429	33 G 0,75	18,0	237,6	468,0	19
53430	37 G 0,75	19,0	266,4	550,0	19
52633	1 G 1	3,9	9,6	25,2	18
53431	1 x 1	3,9	9,6	25,2	18
53432	2 x 1	6,6	19,0	50,0	18
53433	3 G 1	7,0	29,0	66,0	18
53434	4 G 1	7,7	38,0	86,0	18
53435	5 G 1	8,4	48,0	106,0	18
53436	6 G 1	8,9	57,6	127,0	18
53437	7 G 1	10,2	67,0	155,0	18
53438	8 G 1	11,0	76,8	187,0	18
53439	10 G 1	12,5	96,0	214,0	18
53440	12 G 1	12,5	115,0	230,0	18
53441	14 G 1	12,7	134,4	266,0	18
53442	16 G 1	13,6	153,6	301,0	18
53443	19 G 1	15,7	182,0	377,0	18
53444	21 G 1	16,5	202,0	419,0	18
53445	24 G 1	17,1	230,4	464,0	18
53446	25 G 1	17,1	240,0	472,0	18
53447	27 G 1	17,1	259,2	488,0	18
53448	30 G 1	17,7	288,0	536,0	18
53449	33 G 1	18,9	316,8	605,0	18
53450	37 G 1	20,3	355,2	690,0	18
52634	1 G 1,5	4,3	14,4	32,3	16
53451	1 x 1,5	4,3	14,4	32,3	16
53452	2 x 1,5	7,8	29,0	69,0	16
53453	3 G 1,5	8,3	43,0	93,0	16
53454	4 G 1,5	9,1	58,0	120,0	16
53455	5 G 1,5	10,1	72,0	152,0	16
53456	6 G 1,5	10,9	86,4	187,0	16
53457	7 G 1,5	12,1	101,0	222,0	16
53458	8 G 1,5	14,0	115,2	263,0	16
53459	10 G 1,5	14,6	144,0	308,0	16
53460	12 G 1,5	15,0	172,8	330,0	16
53461	14 G 1,5	15,4	201,6	383,0	16
53462	16 G 1,5	16,2	230,4	438,0	16
53463	19 G 1,5	18,3	273,6	554,0	16
53464	21 G 1,5	19,7	302,4	614,0	16
53465	24 G 1,5	21,1	345,6	791,0	16
53466	25 G 1,5	21,7	360,0	701,0	16
53467	27 G 1,5	21,7	389,0	723,0	16
53468	30 G 1,5	21,8	432,0	796,0	16
53469	33 G 1,5	22,6	475,2	880,0	16
53470	37 G 1,5	24,8	532,8	1026,0	16
52635	1 G 2,5	5,0	24,0	46,9	14

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app.kg / km	AWG-No.
53471	1 x 2,5	5,0	24,0	46,9	14
53472	2 x 2,5	9,0	48,0	99,0	14
53473	3 G 2,5	9,9	72,0	140,0	14
53474	4 G 2,5	10,9	96,0	183,0	14
53475	5 G 2,5	12,2	120,0	231,0	14
53476	6 G 2,5	13,2	144,0	280,0	14
53477	7 G 2,5	14,6	168,0	336,0	14
53478	8 G 2,5	15,7	192,0	397,0	14
53479	10 G 2,5	17,9	240,0	460,0	14
53480	12 G 2,5	17,9	288,0	500,0	14
53481	14 G 2,5	19,2	336,0	593,0	14
53482	16 G 2,5	20,1	384,0	675,0	14
53483	19 G 2,5	22,8	456,0	835,0	14
53484	21 G 2,5	23,7	504,0	939,0	14
53485	24 G 2,5	25,8	576,0	1047,0	14
53486	25 G 2,5	25,8	600,0	1067,0	14
53487	27 G 2,5	25,8	648,0	1107,0	14
53488	30 G 2,5	26,7	720,0	1219,0	14
53489	33 G 2,5	28,0	792,0	1349,0	14
53490	37 G 2,5	30,6	888,0	1565,0	14
52636	1 G 4	5,6	38,4	96,0	12
53491	1 x 4	5,6	38,4	96,0	12
53492	2 x 4	10,7	77,0	159,0	12
53493	3 G 4	11,5	115,0	197,0	12
53494	4 G 4	12,8	154,0	260,0	12
53495	5 G 4	14,2	192,0	329,0	12
53496	6 G 4	14,9	230,4	398,0	12
53497	7 G 4	17,0	269,0	478,0	12
53498	8 G 4	17,6	307,2	553,0	12
53499	10 G 4	20,1	384,0	663,0	12
53500	12 G 4	20,1	460,8	725,0	12
53501	14 G 4	21,5	537,6	797,0	12
52637	1 G 6	6,1	57,6	108,0	10
53502	1 x 6	6,1	57,6	108,0	10
53503	2 x 6	11,6	115,2	216,0	10
53504	3 G 6	12,9	173,0	285,0	10
53505	4 G 6	14,4	230,0	375,0	10
53506	5 G 6	15,8	288,0	465,0	10
53507	6 G 6	16,7	345,6	544,0	10
53508	7 G 6	19,4	403,0	664,0	10
52638	1 G 10	7,7	96,0	144,0	8
53509	1 x 10	7,7	96,0	144,0	8
53510	2 x 10	14,7	192,0	351,0	8
53511	3 G 10	15,7	288,0	475,0	8
53512	4 G 10	18,6	384,0	630,0	8
53513	5 G 10	19,6	480,0	782,0	8
53514	6 G 10	21,7	576,0	914,0	8
53515	7 G 10	24,7	672,0	1092,0	8
52639	1 G 16	8,9	153,6	205,0	6
53516	1 x 16	8,9	153,6	205,0	6
53517	2 x 16	17,7	307,2	495,0	6
53518	3 G 16	19,3	460,8	691,0	6
53519	4 G 16	21,2	614,0	905,0	6
53520	5 G 16	23,6	768,0	1129,0	6
53521	6 G 16	26,2	921,6	1327,0	6
53522	7 G 16	28,6	1075,0	1590,0	6
52640	1 G 25	10,9	240,0	336,0	4
53523	1 x 25	10,9	240,0	336,0	4
53524	2 x 25	21,3	480,0	833,0	4
53525	3 G 25	22,7	720,0	1139,0	4
53526	4 G 25	25,4	960,0	1489,0	4
53527	5 G 25	28,1	1200,0	1863,0	4
53528	6 G 25	31,1	1440,0	2275,0	4
53529	7 G 25	34,5	1680,0	2633,0	4
52641	1 G 35	12,8	336,0	454,0	2
53530	1 x 35	12,8	336,0	454,0	2
53531	2 x 35	23,7	672,0	1104,0	2
53532	3 G 35	25,5	1008,0	1513,0	2
53533	4 G 35	28,4	1344,0	1992,0	2
53534	5 G 35	33,5	1680,0	2488,0	2
52642	1 G 50	14,9	480,0	638,0	1
53535	1 x 50	14,9	480,0	638,0	1
53536	2 x 50	29,3	960,0	1573,0	1
53537	3 G 50	31,5	1440,0	2154,0	1
53538	4 G 50	35,3	1920,0	2819,0	1
53539	5 G 50	39,1	2400,0	3505,0	1
52643	1 G 70	17,3	672,0	875,0	2/0
53540	1 x 70	17,3	672,0	875,0	2/0
53541	2 x 70	33,7	1344,0	2157,0	2/0
53542	3 G 70	36,4	2016,0	2946,0	2/0
53543	4 G 70	41,7	2688,0	3888,0	2/0
53544	5 G 70	44,5	3360,0	4864,0	2/0
52644	1 G 95	20,1	912,0	1149,0	3/0
53545	1 x 95	20,1	912,0	1149,0	3/0
53546	2 x 95	37,5	1824,0	2763,0	3/0
53547	3 G 95	40,0	2736,0	3835,0	3/0
53548	4 G 95	47,7	3648,0	5052,0	3/0
53549	5 G 95	50,7	4560,0	6307,0	3/0

Dimensions and specifications may be changed without prior notice. (RE01)

HELUTHERM® 145 MULTI-C

flexible, cross-linked, halogen-free, screened, EMC-preferred type

Technical data

- Temperature-resistant and halogen-free connection and control cable
- **Temperature range**
  flexing -35°C to +120°C
  fixed installation -55°C to +145°C
  in short-circuit +200°C
- **Nominal voltage**
  up to 1 mm² U_0/U 300/500 V
  from 1,5 mm² U_0/U 450/750 V
  with protected fixed installation
  from 1,5 mm² U_0/U 600/1000 V
- **Test voltage**
  3000 V
- **Minimum bending radius**
  flexing 8x cable Ø
  fixed installation 4x cable Ø
- **Coupling resistance**
  max. 250 Ohm/km
- **Caloric load values**
  see "Technical Information"
- **Current rating**
  see "Technical Information"
- **Approval**
  DNV GL

Cable structure

- Tinned copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation: cross-linked polyolefin-copolymer
- Core identification black cores with continuous white numbering
- Cores stranded in layers with optimal lay length
- Foil wrapping
- Tinned copper braided screen, approx. 85% coverage
- Outer sheath: cross-linked polyolefin-copolymer
- Sheath colour: black
- With meter marking

Note

- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- Unscreened analogue type:
  HELUTHERM® 145 MULTI

Properties

- No flame propagation
- Good abrasion and notch resistance
- Good resistance to weathering
- Resistant to ozone
- Resistant to melting, even when in contact with a soldering iron with temperatures from 300°C to 380°C
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame test acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22
- Flame test acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- Fire protection on railway vehicles acc. to EN 45545-2
- UV-resistant acc. to DIN EN ISO 4892-2

Application

These cross-linked and temperature resistant wiring and control cables with enhanced fire-behaviour properties are used for wiring up the lighting fixtures, heaters, electric machines, switching systems and distribution switchboards. A very long service life is also given on account of their excellent high-temperature stability. These cables exhibit good resistance to weathering as well as being very stable to temperature, moisture, ozone and UV radiation. These cables are therfore mainly used for traffic control systems and diverse outdoor applications. The development of smoke is low and no corrosive gases are liberated during combustion of these halogen-free cables in case of fire. The risk of toxic fumes is considerably less in the event of fire because the coloric load values is lower. Precious time can thus be won for a disciplined evacuation, and unnecessary loss of life can be prevented. The extent of the damage to costly control and monitoring systems and the concrete and steel structures of buildings and plant due to fire is reduced by this. Injuries to persons and damage to materials can be prevented. A lower conductor cross section is possible in certain circumstances because of the high thermal load and thus savings in the space and weight required can be made.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
52194	2 x 0,25	5,0	16,0	36,0	24
52195	3 x 0,25	5,5	21,0	44,0	24

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
52196	5 x 0,25	6,4	29,0	68,0	24
52197	7 x 0,25	7,5	37,0	95,0	24

Continuation ▸

HELUTHERM® 145 MULTI-C

flexible, cross-linked, halogen-free, screened, EMC-preferred type

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app.kg / km	AWG-No.
52198	1 x 0,5	3,7	15,0	24,0	20
52199	2 x 0,5	6,0	29,0	55,0	20
52200	3 x 0,5	6,3	38,0	64,0	20
52201	4 x 0,5	6,9	45,0	78,0	20
52202	5 x 0,5	7,7	51,0	95,0	20
52203	6 x 0,5	8,1	66,0	106,0	20
52204	7 x 0,5	8,4	68,0	122,0	20
52205	8 x 0,5	9,0	80,0	138,0	20
52206	10 x 0,5	10,4	93,0	161,0	20
52207	12 x 0,5	10,4	107,0	170,0	20
52208	14 x 0,5	11,0	122,0	193,0	20
52209	16 x 0,5	11,7	129,0	216,0	20
52210	19 x 0,5	12,8	158,0	253,0	20
52211	21 x 0,5	13,5	167,0	281,0	20
52212	1 x 0,75	4,0	18,0	29,0	19
52213	2 x 0,75	6,7	38,0	71,0	19
52214	3 x 0,75	7,1	50,0	82,0	19
52215	4 x 0,75	7,7	58,0	100,0	19
52216	5 x 0,75	8,5	70,0	117,0	19
52217	6 x 0,75	9,1	85,0	135,0	18
52218	7 x 0,75	9,9	90,0	158,0	19
52219	8 x 0,75	10,8	110,0	178,0	19
52220	10 x 0,75	11,5	140,0	207,0	19
52221	12 x 0,75	11,7	148,0	220,0	19
52222	14 x 0,75	12,2	167,0	250,0	19
52223	16 x 0,75	13,2	183,0	282,0	19
52224	19 x 0,75	14,5	212,0	335,0	19
52225	21 x 0,75	15,3	230,0	370,0	19
52226	1 x 1	4,2	20,0	33,0	18
52227	2 x 1	7,2	46,0	78,0	18
52228	3 x 1	7,7	56,0	92,0	18
52229	4 x 1	8,3	66,0	112,0	18
52230	5 x 1	9,0	95,0	134,0	18
52231	6 x 1	9,5	105,0	164,0	18
52232	7 x 1	10,8	109,0	192,0	18
52233	8 x 1	11,4	130,0	219,0	18
52234	10 x 1	12,8	138,0	254,0	18
52235	12 x 1	12,8	164,0	270,0	18
52236	14 x 1	13,5	198,0	308,0	18
52237	16 x 1	14,3	203,0	350,0	18
52238	19 x 1	16,2	235,0	447,0	18
52239	21 x 1	17,0	257,0	492,0	18
52240	1 x 1,5	4,8	22,0	42,0	16
52241	2 x 1,5	8,4	58,0	105,0	16
52242	3 x 1,5	8,9	71,0	121,0	16
52243	4 x 1,5	9,9	86,0	156,0	16
52244	5 x 1,5	10,7	104,0	188,0	16
52245	6 x 1,5	11,5	118,0	225,0	16

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app.kg / km	AWG-No.
52246	7 x 1,5	12,7	136,0	264,0	16
52247	8 x 1,5	13,7	172,0	308,0	16
52248	10 x 1,5	15,4	193,0	361,0	16
52249	12 x 1,5	15,4	222,0	383,0	16
52250	14 x 1,5	16,0	272,0	458,0	16
52251	16 x 1,5	17,0	285,0	515,0	16
52252	19 x 1,5	19,3	331,0	639,0	16
52253	21 x 1,5	20,3	367,0	705,0	16
51000	25 x 1,5	21,7	526,0	841,0	16
52254	1 x 2,5	5,6	28,0	59,0	14
52255	2 x 2,5	9,9	96,0	148,0	14
52256	3 x 2,5	10,5	146,0	183,0	14
52257	4 x 2,5	11,5	150,0	221,0	14
52258	5 x 2,5	12,8	200,0	273,0	14
52259	6 x 2,5	13,8	227,0	326,0	14
52260	7 x 2,5	14,3	235,0	397,0	14
52261	8 x 2,5	16,8	265,0	475,0	14
52262	10 x 2,5	18,3	326,0	542,0	14
52263	12 x 2,5	18,4	376,0	582,0	14
52264	14 x 2,5	19,6	428,0	681,0	14
52265	16 x 2,5	20,7	480,0	778,0	14
52266	19 x 2,5	23,5	557,0	948,0	14
52267	21 x 2,5	24,4	606,0	1042,0	14
52268	1 x 4	6,3	56,0	86,0	12
52269	2 x 4	10,9	135,0	196,0	12
52270	3 x 4	11,5	178,0	248,0	12
52271	4 x 4	13,2	220,0	316,0	12
52272	5 x 4	14,5	259,0	376,0	12
52273	6 x 4	15,6	302,0	452,0	12
52274	7 x 4	16,1	355,0	555,0	12
52275	8 x 4	18,3	392,0	655,0	12
52276	10 x 4	20,7	480,0	767,0	12
52277	12 x 4	20,7	557,0	829,0	12
52278	14 x 4	22,1	636,0	948,0	12
52279	1 x 6	6,9	81,0	108,0	10
52280	2 x 6	12,4	175,0	255,0	10
52281	3 x 6	12,8	240,0	330,0	10
52282	4 x 6	14,9	305,0	429,0	10
52283	5 x 6	16,0	441,0	536,0	10
52284	6 x 6	17,4	473,0	624,0	10
52285	7 x 6	19,3	505,0	751,0	10
52286	1 x 10	8,6	124,0	170,0	8
52287	2 x 10	15,1	265,0	409,0	8
52288	3 x 10	17,0	370,0	550,0	8
52289	4 x 10	18,1	485,0	715,0	8
52290	5 x 10	20,2	610,0	882,0	8
52291	6 x 10	23,3	715,0	1026,0	8
52292	7 x 10	24,3	820,0	1195,0	8

Dimensions and specifications may be changed without prior notice. (RE01)

THERMFLEX® 180 EWKF

Silicone multicore cable, halogen-free, meter marking

Technical data

- adapted to DIN VDE 0285-525-2-83 / DIN EN 50525-2-83
- **Temperature range** flexing -25°C to +180°C fixed installation -60°C to +180°C
- **Nominal voltage** U_0/U 300/500 V
- **Test voltage** 2000 V
- **Insulation resistance** min. 200 MOhm x km
- **Minimum bending radius** flexing 7,5x cable Ø fixed installation 4x cable Ø
- **Radiation resistance** up to 20x10⁶ cJ/kg (up to 20 Mrad)

Tests

- Insulation integrity testet acc. to DIN VDE 0472-814 / IEC 60331
- Halogen free acc. to DIN VDE 0482-267 / DIN EN 50267-2-1 / IEC 60754-1
- Behaviour in fire no flame propagation acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Corrosiveness of combustion gases acc. to DIN VDE 0482-267 / DIN EN 50267-2-2 / IEC 60754-2

Cable structure

- Tinned copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / BS 6360 cl.5 / IEC 60228 cl.5
- Core insulation of special silicone compound type EI2 to DIN VDE 0207-363-1 / DIN EN 50363-1
- Core identification to DIN VDE 0293-308
  - up to 5 cores coloured
  - from 6 cores, black with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Outer sheath of special silicone compound type 2GM1 to DIN VDE 0207-363-2-1/DIN EN 50363-2-1
- Sheath colour: black (RAL 9005)
- With meter marking

Properties

- Low **smoke density**
- Due to the special abrasive and notch resistance outer sheath, these cables are suitable for heavy loading of mechanical stresses than the usual standard silicone cables
- **Advantages** hardly changes of dielectric strength and the insulation resistance also at high temperatures, high ignition or flash point, leave in case of fire an insulating layer of SiO_2 thereby ensuring a longer functional integrity
- **Resistant to** high molecular oils, fats from vegetables and animals, alcohols, plasticizers and clophenes, diluted acids, lyes and salt dissolution, oxidation substances, atmospheric influences, lake water, oxygen, ozone

Note

- G = with GN-YE conductor x = without GN-YE conductor
- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- **EWKF** = Improved values to **E**=tearing resistance, **W**=breaking strength propagation, **K**=notch strength, **F**=flexibility
- Screened analogue type: **THERMFLEX® 180 EWKF-C**

Application

These cables are ideal for use everywhere, where they are exposed to high mechanical stresses, as well as wire insulation are subjected to high temperatures. For use in dry, damp and wet rooms, as well outdoor. Silicone cables are halogen free and are suitable for use in air conditioning and heating, for lighting, for the wiring of ovens, saunas and solariums, foundries, steel, cement and ceramic works and in the heating and cooling equipment.

FRNC = **F**lame **R**etardant **N**on **C**orrosive

All silicone cables are available also in FRNC versions. The sheath designed with special-compound conform flame test method C to DIN VDE 0472-804 and IEC 60332-3 as well as HD 405.3. This special compound is self-extinguishing. Because of that these cables can be installed as security cable with functionality as for example in communal buildings, power stations, hotels, airports etc.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
74992	2 x 0,75	6,4	15,0	53,0	19
74993	3 G 0,75	7,0	22,0	64,0	19
74994	4 G 0,75	7,6	29,0	84,0	19
74995	5 G 0,75	8,5	36,0	101,0	19
74996	2 x 1	6,8	20,0	60,0	18
74997	3 G 1	7,2	29,0	78,0	18
74998	4 G 1	7,8	39,0	95,0	18
74999	5 G 1	8,8	48,0	116,0	18
75000	2 x 1,5	8,8	29,0	82,0	16
75001	3 G 1,5	8,9	43,0	98,0	16
75002	4 G 1,5	9,9	58,0	122,0	16
75003	5 G 1,5	10,8	72,0	148,0	16
75004	7 G 1,5	12,0	101,0	187,0	16
75005	12 G 1,5	16,1	173,0	315,0	16
75006	16 G 1,5	18,2	231,0	446,0	16
75007	20 G 1,5	19,4	288,0	566,0	16

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
75008	2 G 2,5	9,8	48,0	135,0	14
75009	3 G 2,5	10,4	72,0	152,0	14
75010	4 G 2,5	11,5	96,0	189,0	14
75011	5 G 2,5	12,9	120,0	229,0	14
75012	2 x 4	11,6	77,0	180,0	12
75013	3 G 4	12,3	115,0	230,0	12
75014	4 G 4	13,6	154,0	300,0	12
75015	5 G 4	15,2	192,0	380,0	12
75016	2 x 6	13,2	115,0	321,0	10
75017	3 G 6	14,0	173,0	330,0	10
75018	4 G 6	15,5	230,0	430,0	10
75019	5 G 6	17,2	288,0	550,0	10

Dimensions and specifications may be changed without prior notice. (RE01)

THERMFLEX® 180 EWKF-C

Silicone multicore cable, screened, halogen-free, meter marking, EMC-preferred type

Technical data

- adapted to DIN VDE 0285-525-2-83 / DIN EN 50525-2-83
- **Temperature range** flexing -25°C to +180°C fixed installation -60°C to +180°C
- **Nominal voltage** U_0/U 300/500 V
- **Test voltage** 2000 V
- **Insulation resistance** min. 200 MOhm x km
- **Minimum bending radius** flexing 10x cable Ø fixed installation 5x cable Ø
- **Coupling resistance** max. 250 Ohm/km
- **Radiation resistance** up to 20x10⁶ cJ/kg (up to 20 Mrad)

Tests

- Insulation integrity testet acc. to DIN VDE 0472-814 / IEC 60331
- Halogen-free acc. to DIN VDE 0482-267 / DIN EN 50267-2-1 / IEC 60754-1
- Behaviour in fire no flame propagation acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Corrosiveness of combustion gases acc. to DIN VDE 0482-267 / DIN EN 50267-2-2 / IEC 60754-2

Cable structure

- Tinned copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / BS 6360 cl.5 / IEC 60228 cl.5
- Core insulation of special silicone compound type EI2 to DIN VDE 0207-363-1 / DIN EN 50363-1
- Core identification to DIN VDE 0293-308
  - up to 5 cores coloured
  - from 6 cores, black with continuous white numbering
- GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Inner sheath of special silicone
- Tinned copper braided screen, approx. 85% coverage
- Outer sheath of special silicone compound type 2GM1 to DIN VDE 0207-363-2-1/DIN EN 50363-2-1
- Sheath colour: black (RAL 9005)
- With meter marking

Properties

- Low **smoke density**
- Due to the special abrasive and notch resistance outer sheath, these cables are suitable for heavy loading of mechanical stresses than the usual standard silicone cables
- **Advantages** hardly changes of dielectric strength and the insulation resistance also at high temperatures, high ignition or flash point, leave in case of fire an insulating layer of SiO_2 thereby ensuring a longer functional integrity
- **Resistant to** high molecular oils, fats from vegetables and animals, alcohols, plasticizers and clophenes, diluted acids, lyes and salt dissolution, oxidation substances, atmospheric influences, lake water, oxygen, ozone

Note

- G = with GN-YE conductor x = without GN-YE conductor
- **EWKF** = Improved values to **E**=tearing resistance, **W**=breaking strength propagation, **K**=notch strength, **F**=flexibility
- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- Unscreened analogue type: **THERMFLEX® 180 EWKF**

Application

These cables are ideal for use everywhere, where increased mechanical stresses for the installation and operation are required. Silicone-rubber-insulated cables are used for all applications where the cable insulation is subjected to high temperature fluctuations. For use in dry, damp and wet rooms as well outdoor. As flexible connecting cable for low mechanical stress i. e. sauna, solar installations, foundries and steel plants. This cable can be used for fixed installation only in open and ventilated cable tubes and cable ducts. An interference-free transmission of signals and pulse is assured by the high screening density.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

FRNC = **F**lame **R**etardant **N**on **C**orrosive

All silicone cables are available also in FRNC versions. The sheath designed with special-compound conform flame test method C to DIN VDE 0472-804 and IEC 60332-3 as well as HD 405.3. This special compound is self-extinguishing. Because of that these cables can be installed as security cable with functionality as for example in communal buildings, power stations, hotels, airports etc.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
79804	2 x 0,75	9,0	61,4	124,0	19
79805	3 G 0,75	9,4	69,1	136,0	19
79806	4 G 0,75	10,4	86,7	160,0	19
79807	5 G 0,75	11,2	95,2	180,0	19
79808	2 x 1	9,4	66,7	132,0	18
79809	3 G 1	9,8	86,2	154,0	18
79810	4 G 1	10,7	96,8	176,0	18
79811	5 G 1	11,6	108,3	207,0	18
79812	2 x 1,5	10,8	87,7	170,0	16
79813	3 G 1,5	11,2	103,5	190,0	16
79814	4 G 1,5	12,0	131,7	231,0	16
79815	5 G 1,5	12,8	148,5	282,0	16
79816	7 G 1,5	13,6	193,4	342,0	16
701219	12 G 1,5	17,2	298,4	531,0	16

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
79817	16 G 1,5	20,0	362,3	660,0	16
79818	20 G 1,5	21,3	405,1	766,0	16
79819	2 x 2,5	12,0	122,3	230,0	14
79820	3 G 2,5	12,9	147,7	275,0	14
79821	4 G 2,5	13,9	188,6	340,0	14
79822	5 G 2,5	14,8	214,9	395,0	14
79823	2 x 4	14,2	137,0	308,0	12
79824	3 G 4	14,9	178,1	364,0	12
79825	4 G 4	16,0	294,0	511,0	12
79826	5 G 4	17,4	374,0	630,0	12
79827	2 x 6	15,8	185,0	418,0	10
79828	3 G 6	16,6	241,1	612,0	10
79829	4 G 6	18,1	449,0	781,0	10
79830	5 G 6	20,0	563,0	980,0	10

Dimensions and specifications may be changed without prior notice. (RE01)

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H05 RR-F/H05 RN-F

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RUBBER CABLES

H07RN-F

rubber-sheathed cable

Technical data

- Rubber sheathed cable H07RN-F to DIN VDE 0285-525-2-21, BS 7919 DIN EN 50525-2-21, IEC 60245-4
- **Temperature range**
  flexing -25°C bis +60°C
  fixed installation -30°C bis +60°C
- Permissible conductor **operating temperature** +60°C
- **Nominal voltage**
  U_0/U 450/750 V
  in case of protected and fixed installation
  U_0/U 600/1000 V
- Max. permissible **operating voltage**
  - 3-Phase and single phase operation 476/825 V
  - DC operation 619/1238 V
- **Test voltage**
  2500 V
- **Permanent tensile load**
  max. 15 N/mm²
- **Minimum bending radius**
  for fixed installation 4x cable Ø
  for guiding over roller 7,5x cable Ø
  during winding on drums 5x cable Ø

Cable structure

- Bare copper conductor, to DIN VDE 0295 cl.5, fine wire, BS 6360 cl.5, IEC 60228 cl.5
- Core insulation of rubber EI4 to DIN VDE 0207-363-1 / DIN EN 50363-1
- Core identification to DIN VDE 0293-308
  - up to 5 cores coloured
  - from 6 cores, black with continuous white numbering
- GN-YE conductor, 3 cores and above
- Cores stranded in layers with optimal lay length
- Outer sheath of rubber EM2 to DIN VDE 0207-363-2-1/DIN EN 50363-2-1
- Sheath colour: black

Properties

Resistant to

- Weather

Tests

- Self-extinguishing and flame retardant acc. to DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2
- Ozone resistant of the insulation to DIN VDE 0473-396, DIN EN 50396
- Oil resistant test acc. to DIN VDE 0473-811-404, DIN EN 60811-404

Note

- G = with GN-YE conductor
  x = without GN-YE conductor
- AWG sizes are approximate equivalent values. The actual cross section is in mm².
- The core identification of a single core sheathed, of an insulated wire is black.
- adapted to VDE with designation **07RN-F**
  - Part.-no. 37094, 19G1,5 mm²
  - Part.-no. 37098, 19G2,5 mm²
  - Part.-no. 34349, 5G120 mm²
  - Part.-no. 34127, 5G150 mm²

Application

Heavy duty rubber-sheathed flexible cables are suited for use for medium mechanical stress in dry, damp and wet areas as well as in open air and in agriculture plants. They are used for equipment in industry works such as boilers, heating plates, hand lamps, electric tools such as drills, circular saws and homework tools as well as for transportable motors or machines at site. These cables are also suitable for fixed installation on plaster, in temporary buildings and residential barracks. They are suitable for direct laying on components and mechanical parts of machines, for example lifts and cranes. They can be used in case of protected and fixed installation in tubes or in equipment as well as rotor connecting cable of motors with a working voltage up to 1000 V alternating voltage or a direct voltage up to 750 V against ground.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
37001	1 x 1,5	5,7 - 7,1	14,4	58,0	16
37002	1 x 2,5	6,3 - 7,9	24,0	71,0	14
37003	1 x 4	7,2 - 9,0	38,0	100,0	12
37004	1 x 6	7,9 - 9,8	58,0	130,0	10
37005	1 x 10	9,5 - 11,9	96,0	230,0	8
37006	1 x 16	10,8 - 13,4	154,0	290,0	6
37007	1 x 25	12,7 - 15,8	240,0	420,0	4
37008	1 x 35	14,3 - 17,9	336,0	530,0	2
37009	1 x 50	16,5 - 20,6	480,0	750,0	1
37010	1 x 70	18,6 - 23,3	672,0	960,0	2/0
37011	1 x 95	20,8 - 26,0	912,0	1250,0	3/0
37012	1 x 120	22,8 - 28,6	1152,0	1560,0	4/0
37013	1 x 150	25,2 - 31,4	1440,0	1900,0	300 kcmil
37014	1 x 185	27,6 - 34,4	1776,0	2300,0	350 kcmil
37015	1 x 240	30,6 - 38,3	2304,0	2950,0	500 kcmil
37016	1 x 300	33,5 - 41,9	2880,0	3600,0	600 kcmil
37017	1 x 400	37,4 - 46,8	3840,0	4600,0	750 kcmil
37018	1 x 500	41,3 - 52,0	4800,0	6000,0	1000 kcmil

Part no.	No.cores x cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
37019	2 x 1	7,7 - 10,0	19,0	98,0	18
37020	2 x 1,5	8,5 - 11,0	29,0	135,0	16
37021	2 x 2,5	10,2 - 13,1	48,0	193,0	14
37022	2 x 4	11,8 - 15,1	77,0	280,0	12
37023	2 x 6	13,1 - 16,8	115,0	330,0	10
37024	2 x 10	17,7 - 22,6	192,0	586,0	8
37025	2 x 16	20,2 - 25,7	307,0	810,0	6
37026	2 x 25	24,3 - 30,7	480,0	1160,0	4

Continuation ▸

H07RN-F

rubber-sheathed cable

Part no.	No.cores x cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app.kg / km	AWG-No.
37027	3 G 1	8,3 - 10,7	29,0	130,0	18
37028	3 G 1,5	9,2 - 11,9	43,0	165,0	16
37029	3 G 2,5	10,9 - 14,0	72,0	235,0	14
37030	3 G 4	12,7 - 16,2	115,0	320,0	12
37031	3 G 6	14,1 - 18,0	173,0	420,0	10
37032	3 G 10	19,1 - 24,2	288,0	810,0	8
37033	3 G 16	21,8 - 27,6	461,0	1050,0	6
37034	3 G 25	26,1 - 33,0	720,0	1250,0	4
37035	3 G 35	29,3 - 37,1	1008,0	1900,0	2
37036	3 G 50	34,1 - 42,9	1440,0	2600,0	1
37037	3 G 70	38,4 - 48,3	2016,0	3400,0	2/0
37038	3 G 95	43,3 - 54,0	2736,0	4450,0	3/0
37039	3 G 120	47,4 - 60,0	3456,0	5180,0	4/0
37040	3 G 150	52,0 - 66,0	4320,0	6500,0	300 kcmil
37041	3 G 185	57,0 - 72,0	5328,0	7860,0	350 kcmil
37042	3 G 240	65,0 - 82,0	6912,0	10224,0	500 kcmil
37043	3 G 300	72,0 - 90,0	8640,0	12620,0	600 kcmil
37044	4 G 1	9,2 - 11,9	38,0	150,0	18
37045	4 G 1,5	10,2 - 13,1	58,0	200,0	16
37046	4 G 2,5	12,1 - 15,5	96,0	290,0	14
37047	4 G 4	14,0 - 17,9	154,0	395,0	12
37048	4 G 6	15,7 - 20,0	230,0	540,0	10
37049	4 G 10	20,9 - 26,5	384,0	950,0	8
37050	4 G 16	23,8 - 30,1	614,0	1260,0	6
37051	4 G 25	28,9 - 36,6	960,0	1860,0	4
37052	4 G 35	32,5 - 41,1	1344,0	2380,0	2
37053	4 G 50	37,7 - 47,5	1920,0	3190,0	1
37054	4 G 70	42,7 - 54,0	2688,0	4260,0	2/0

Part no.	No.cores x cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app.kg / km	AWG-No.
37055	4 G 95	48,4 - 61,0	3648,0	5600,0	3/0
37056	4 G 120	53,0 - 66,0	4608,0	6830,0	4/0
37057	4 G 150	58,0 - 73,0	5760,0	8320,0	300 kcmil
37058	4 G 185	64,0 - 80,0	7104,0	9800,0	350 kcmil
37059	4 G 240	72,0 - 91,0	9216,0	12100,0	500 kcmil
37060	4 G 300	80,0 - 101,0	11520,0	15200,0	600 kcmil
37061	5 G 1,5	11,2 - 14,4	72,0	240,0	16
37062	5 G 2,5	13,3 - 17,0	120,0	345,0	14
37063	5 G 4	15,6 - 19,9	192,0	485,0	12
37064	5 G 6	17,5 - 22,2	288,0	650,0	10
37065	5 G 10	22,9 - 29,1	480,0	1200,0	8
37066	5 G 16	26,4 - 33,3	768,0	1550,0	6
37067	5 G 25	32,0 - 40,4	1200,0	2250,0	4
37068	5 G 35	35,7 - 45,1	1680,0	2750,0	2
37091	5 G 50	41,8 - 53,0	2400,0	3950,0	1
37154	5 G 70	47,5 - 60,0	3360,0	4740,0	2/0
34090	5 G 95	54,0 - 67,0	4560,0	6600,0	3/0
34349	5 G 120	58,0 - 73,0	5760,0	8180,0	4/0
34127	5 G 150	64,0 - 80,0	7200,0	10600,0	300 kcmil
37092	7 G 1,5	14,7 - 18,7	101,0	375,0	16
37079	7 G 2,5	17,1 - 21,8	168,0	520,0	14
37093	12 G 1,5	17,6 - 22,4	175,0	460,0	16
37096	12 G 2,5	20,6 - 26,2	288,0	760,0	14
37097	18 G 2,5	24,4 - 30,9	432,0	850,0	14
37094	19 G 1,5	20,7 - 26,3	274,0	810,0	16
37098	19 G 2,5	25,5 - 31,0	456,0	1075,0	14
37095	24 G 1,5	24,3 - 30,7	346,0	1015,0	16
37099	24 G 2,5	28,8 - 36,4	576,0	1390,0	14

Dimensions and specifications may be changed without prior notice. (RF01)

HELUPOWER® H07RN-F LS0H

halogen-free

Technical data

- Rubber sheathed cable to DIN VDE 0285-525-2-21 / DIN EN 50525-2-21
- **Temperature range**
  flexing -40°C up to +90°C
  fixed installation -50°C up to +90°C
- Permissible conductor **operating temperature** +90°C
- Permissible **short circuit temperature** +250°C
- **Nominal voltage**
  U_0/U 450/750 V
- Max. permissible **operating voltage**
  - 3-Phase and single phase operation 476/825 V
  - DC operation 619/1238 V
- **Test voltage**
  core/core 2500 V
- **Minimum bending radius**
  flexing 6x outer Ø
  fixed installation 4x outer Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation: special rubber
- Core identification acc. to DIN VDE 0293-308
  1 core: black
  ⩽ 5 cores: coloured
  ⩾ 6 cores: black with continuous white numbering
- ⩾ 3 cores: incl. GN-YE conductor
  G = with GN-YE conductor, in the outer layer
  x = no GN-YE conductor
- Cores stranded in layers with optimal lay length
- Outer sheath: special rubber
- Sheath colour: black

Properties

- **resistant to**
  UV-radiation, weather, fats, lubricating oil
- Torsion-resistant in wind turbines
  Torsion angle +/- 150°/m
  Speed 1 U/Minute
  Temperature range
  -40°C to +90°C 2000 cycles
  +5°C to +90°C 5000 cycles

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- Oil resistant acc. to DIN VDE 0473-811-404/DIN EN 60811-404
- Ozone resistant to DIN EN 60811-403

Note

- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Application

Halogen-free rubber tube cables are suited for medium mechanical stress in dry, damp and wet areas as well as outdoors. Can only be used in stagnant water (also in salt water) up to a water depth of 100 m (AD8) and at a water temperature of min. +5°C. Laying in tubes or similar closed systems the use of the cable is approved up to 1000 V ac-voltage or up to 750 V direct voltage against earth.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
30737	1 x 1,5	5,7 - 7,1	14,4	51,0	16
30738	1 x 2,5	6,3 - 7,9	24,0	67,0	14
30739	1 x 4	7,2 - 9,0	38,0	92,0	12
30740	1 x 6	7,9 - 9,8	58,0	121,0	10
30741	1 x 10	9,5 - 11,9	96,0	186,0	8
30742	1 x 16	10,8 - 13,4	154,0	256,0	6
30743	1 x 25	12,7 - 15,8	240,0	368,0	4
30744	1 x 35	14,3 - 17,9	336,0	485,0	2
30745	1 x 50	16,5 - 20,6	480,0	668,0	1
30746	1 x 70	18,6 - 23,3	672,0	905,0	2/0
30747	1 x 95	20,8 - 26,0	912,0	1180,0	3/0
30748	1 x 120	22,8 - 28,6	1152,0	1460,0	4/0
30749	1 x 150	25,2 - 31,4	1440,0	1810,0	300 kcmil
30750	1 x 185	27,6 - 34,4	1776,0	2165,0	350 kcmil
30751	1 x 240	30,6 - 38,3	2304,0	2750,0	500 kcmil
30752	1 x 300	33,5 - 41,9	2880,0	3271,0	600 kcmil
30753	1 x 400	37,4 - 46,8	3840,0	4286,0	750 kcmil
30754	1 x 500	41,3 - 52,0	4800,0	5301,0	1000 kcmil
30755	1 x 630	45,5 - 57,0	6048,0	6959,0	1250 kcmil
30756	2 x 1	7,7 - 10,0	19,0	93,0	18
30757	2 x 1,5	8,5 - 11,0	29,0	115,0	16
30758	2 x 2,5	10,2 - 13,1	48,0	165,0	14

Part no.	No.cores x cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
30759	2 x 4	11,8 - 15,1	77,0	225,0	12
30760	2 x 6	13,1 - 16,8	115,0	300,0	10
30761	2 x 10	17,7 - 22,6	192,0	550,0	8
30762	2 x 16	20,2 - 25,7	307,0	745,0	6
30763	2 x 25	24,3 - 30,7	480,0	1060,0	4
30764	3 G 1	8,3 - 10,7	29,0	120,0	18
30765	3 G 1,5	9,2 - 11,9	43,0	150,0	16
30766	3 G 2,5	10,9 - 14,0	72,0	200,0	14
30767	3 G 4	12,7 - 16,2	115,0	295,0	12
30768	3 G 6	14,1 - 18,0	173,0	380,0	10
30769	3 G 10	19,1 - 24,2	288,0	675,0	8
30770	3 G 16	21,8 - 27,6	461,0	950,0	6
30771	3 G 25	26,1 - 33,0	720,0	1355,0	4
30772	3 G 35	29,3 - 37,1	1008,0	1765,0	2
30773	3 G 50	34,1 - 42,9	1440,0	2415,0	1
30774	3 G 70	38,4 - 48,3	2016,0	3230,0	2/0
30775	3 G 95	43,3 - 54,0	2736,0	4225,0	3/0
30776	3 G 120	47,4 - 60,0	3456,0	5190,0	4/0
30777	3 G 150	52,0 - 66,0	4320,0	6415,0	300 kcmil
30778	3 G 185	57,0 - 72,0	5328,0	7700,0	350 kcmil
30779	3 G 240	65,0 - 82,0	6912,0	9458,0	500 kcmil
30780	3 G 300	72,0 - 90,0	8640,0	11635,0	600 kcmil

Continuation ▸

HELUPOWER® H07RN-F LS0H

halogen-free

Part no.	No.cores x cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app.kg / km	AWG-No.
30781	4 G 1	9,2 - 11,9	38,0	145,0	18
30782	4 G 1,5	10,2 - 13,1	58,0	175,0	16
30783	4 G 2,5	12,1 - 15,5	96,0	255,0	14
30784	4 G 4	14,0 - 17,9	154,0	355,0	12
30785	4 G 6	15,7 - 20,0	230,0	485,0	10
30786	4 G 10	20,9 - 26,5	384,0	845,0	8
30787	4 G 16	23,8 - 30,1	614,0	1185,0	6
30788	4 G 25	28,9 - 36,6	960,0	1730,0	4
30789	4 G 35	32,5 - 41,1	1344,0	2250,0	2
30790	4 G 50	37,7 - 47,5	1920,0	3085,0	1
30791	4 G 70	42,7 - 54,0	2688,0	4145,0	2/0
30792	4 G 95	48,4 - 61,0	3648,0	5465,0	3/0
30793	4 G 120	53,0 - 66,0	4608,0	6670,0	4/0
30794	4 G 150	58,0 - 73,0	5760,0	8290,0	300 kcmil
30795	4 G 185	64,0 - 80,0	7104,0	9385,0	350 kcmil

Part no.	No.cores x cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app.kg / km	AWG-No.
30796	5 G 1	10,2 - 13,1	48,0	180,0	18
30797	5 G 1,5	11,2 - 14,4	72,0	220,0	16
30798	5 G 2,5	13,3 - 17,0	120,0	310,0	14
30799	5 G 4	15,6 - 19,9	192,0	445,0	12
30800	5 G 6	17,5 - 22,2	288,0	605,0	10
30801	5 G 10	22,9 - 29,1	480,0	1035,0	8
30802	5 G 16	26,4 - 33,3	768,0	1465,0	6
30803	5 G 25	32,0 - 40,4	1200,0	2145,0	4
30804	5 G 35	35,7 - 45,1	1680,0	2579,0	2
30805	5 G 50	41,8 - 53,0	2400,0	3594,0	1
30806	5 G 70	47,5 - 60,0	3360,0	4837,0	2/0
30807	5 G 95	54,0 - 67,0	4560,0	6269,0	3/0
30808	7 G 1,5	14,7 - 18,7	101,0	355,0	16
30809	7 G 2,5	17,1 - 21,8	168,0	498,0	14
30810	12 G 1,5	17,6 - 22,4	173,0	505,0	16
30811	12 G 2,5	20,6 - 26,2	288,0	710,0	14

Dimensions and specifications may be changed without prior notice. (RF01)

NSHTÖU

Drum cable

Technical data

- Special-drum cable acc. to DIN VDE 0250-814
- **Temperature range**
  flexing -25°C to +70°C
  fixed installation -40°C to +70°C
- Max. **temperatur at the conductor**
  during operation +60°C
  in case of short circuit +200°C
- **Nominal voltage**
  U_0/U 0.6/1 kV
- Max. permissible **operating voltage**
  - 3-Phase and single phase operation 700/1200 V
  - DC operation 900/1800 V
- **Test voltage**
  2500 V
- **Minimum bending radius**
  7,5x cable Ø
- **Radiation resistance**
  up to 20x10⁶ cJ/kg (up to 20 Mrad)

Cable structure

- Tinned copper conductor, to DIN VDE 0295 cl.5, fine wire, BS 6360 cl.5, IEC 60228 cl.5
- Core insulation of rubber compound type GI1 to DIN VDE 0207-20
- Core identification to DIN VDE 0293
  - up to 5 cores coloured
  - from 6 cores, black with continuous white numbering
- GN-YE conductor
- Cores stranded (without elongated central core) with max. lay length of 8x Ø over the stranding layers
- Textile tape
- Inner sheath
- Torsion protection betweeen inner and outer sheath
- Outer sheath of rubber compound type 5GM2 to DIN VDE 0207-21
- Sheath colour: black

Properties

- Designed and developed for horizontal drum-operation
- **Resistant to** ozone, oils, acids, fats, gazoline, solvents and chemicals

Tests

- Behaviour in fire acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-2-1 / IEC 60332-1-2
- Oil resistant acc. to DIN VDE 0473-811-404/DIN EN 60811-404

Note

- G = with GN-YE conductor
- Permissible running speed up to max. 120 m/min
- During the installation and operation the tensile stress on conductor may not increase 15 N/mm²
- Accelaration not more than 0,4 m/s²
- In case of high mechanical stress, especially of high dynamic tensile stress result high accelaration, the permissible stress must be defined in each case
- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Application

Trailing cables are used for high mechanical stress, especially for applications with frequent winding and unwinding with simultaneous tensile and torsional stress, for building machinery, conveyors, shifts and cranes. They are used as robust and all weather resistant cables of roughest operations in mining and in flexible handling equipment and railway motors. The cables are suitable for outdoor installation in dry, damp and wet places as well in open air. For applications which go beyond standard solutions we recommend that you fill out our especially developed questionnaire for reeling cables. Please read the installation instructions, see chapter "Technical Informations".

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
26001	3 G 1,5	13,6	43,0	236,0	16
26029	4 G 1,5	14,0	58,0	274,0	16
26002	5 G 1,5	14,5	72,0	316,0	16
26003	7 G 1,5	18,8	101,0	440,0	16
26004	12 G 1,5	21,0	173,0	606,0	16
26005	16 G 1,5	24,5	230,0	696,0	16
26006	18 G 1,5	25,5	260,0	750,0	16
26007	24 G 1,5	27,5	346,0	1150,0	16
26008	30 G 1,5	29,5	432,0	1325,0	16
26009	3 G 2,5	15,3	72,0	305,0	14
26010	4 G 2,5	16,5	96,0	350,0	14
26011	5 G 2,5	17,5	120,0	465,0	14
26012	7 G 2,5	20,0	168,0	576,0	14
26013	12 G 2,5	23,5	288,0	850,0	14
26014	18 G 2,5	28,0	432,0	1181,0	14
26015	24 G 2,5	32,5	576,0	1550,0	14

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
26016	30 G 2,5	34,0	720,0	1810,0	14
26017	40 G 2,5	42,5	960,0	3110,0	14
26018	50 G 2,5	46,5	1200,0	3200,0	14
26019	4 G 4	18,5	154,0	510,0	12
26030	5 G 4	21,5	192,0	635,0	12
26020	4 G 6	21,0	230,0	650,0	10
26031	5 G 6	23,5	288,0	800,0	10
26021	4 G 10	26,0	384,0	1010,0	8
26022	5 G 10	28,0	480,0	1200,0	8
26023	4 G 16	29,0	614,0	1300,0	6
26032	5 G 16	31,5	768,0	1700,0	6
26024	4 G 25	35,0	960,0	2000,0	4
26025	4 G 35	37,5	1344,0	2610,0	2
26026	4 G 50	44,5	1920,0	3500,0	1
26027	4 G 70	49,0	2688,0	4600,0	2/0
26028	4 G 95	56,0	3648,0	6100,0	3/0

Dimensions and specifications may be changed without prior notice. (RG01)

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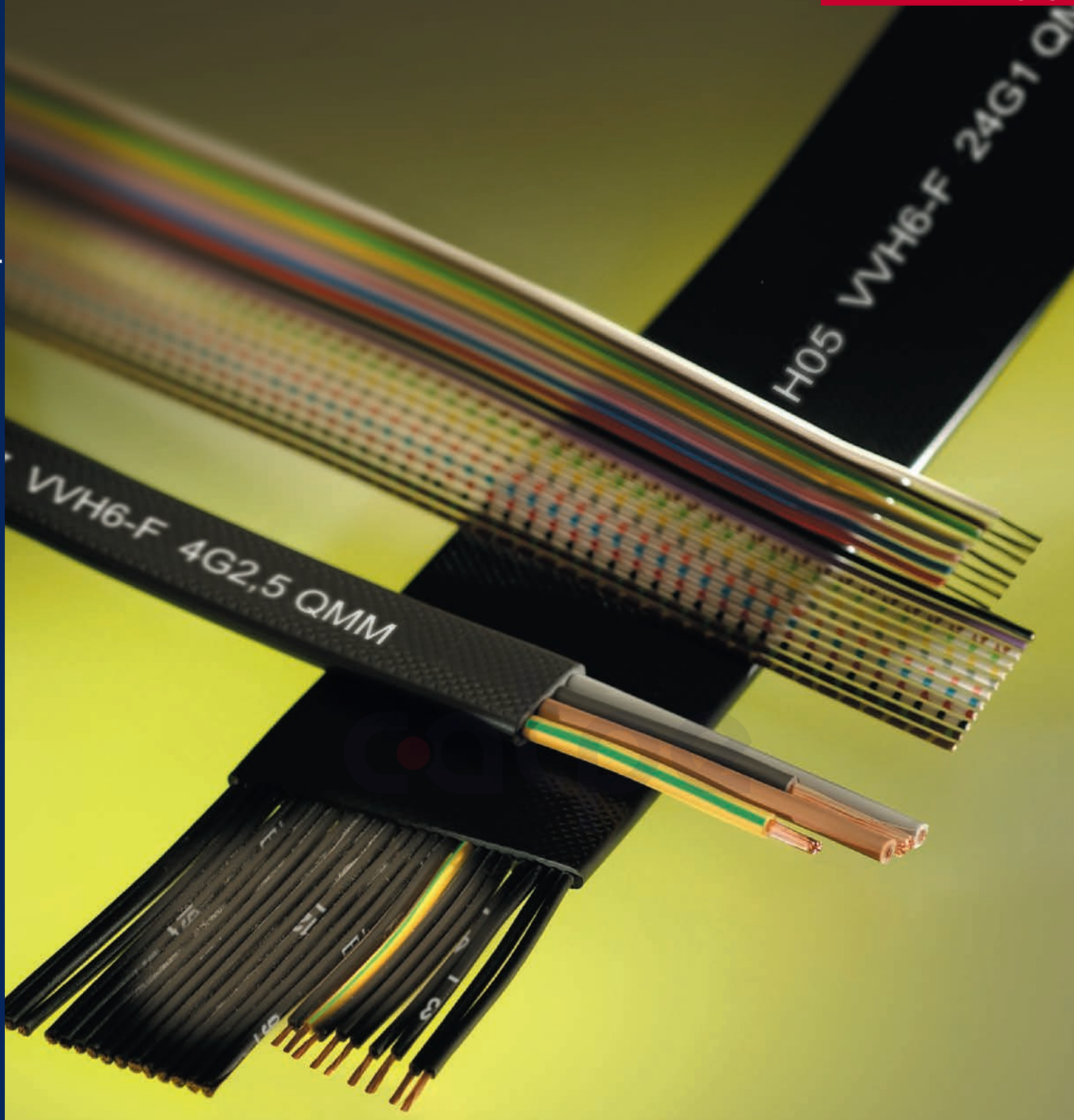

TUBEFLEX-(St)-CY

NEO-Flat-C

Ribbon Cables

TUBEFLEX-Y

PVC-Flat (H05 VVH-F/H07 VVH6-F)

NEO-Flat

PVC-Flat-CY

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FLAT CABLES

PVC-flat

300/500 V and 450/750 V

Technical data

- Special PVC-flat cable adapted to EN 50214 / DIN VDE 0283-2
  Temperature range
  flexing -5°C to +70°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  up to 1 mm² U_0/U 300/500 V
  from 1,5 mm² U_0/U 450/750 V
- **Test voltage**
  up to 1 mm² 2000 V
  from 1,5 mm² 2500 V
- **Minimum bending radius**
  10x cable thickness
- **Radiation resistance**
  up to 80x10⁶ cJ/kg (up to 80 Mrad)

Cable structure

- Bare copper conductor, to DIN VDE 0295 cl.5, fine wire, BS 6360 cl.5, IEC 60228 cl.5
- Core insulation of PVC compound type TI2 to DIN VDE 0207-363-3 / DIN EN 50363-3
- Core identification to DIN VDE 0293
  - up to 5 cores coloured
  - from 7 cores, black with continuous white numbering
- Cores laying parallel
- GN-YE conductor
- Outer sheath of special PVC compound type TM2 to DIN VDE 0207-363-4-1/DIN EN 50363-4-1
- Sheath colour: black (RAL 9005)

Properties

- Extensively oil resistant, oil-/chemical resistance see "Technical Informations"
- Extremely small bending radius
- High flexibility
- Minimum waste of space
- Packeting possibility

Tests

- PVC self-extinguishing and flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

Note

- Part no. 27012 (6x4)
- G = with GN-YE conductor
  x = without GN-YE conductor
- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Application

PVC type of flat cables are used mainly as trailing cable for crane installations, floor conveyer systems and shelf control units.

Installation notes

Cables reels with flat cables must be transported in standing position on the flange. A bending flexibility can be achieved on a plane surface. For this purpose, the corresponding fitting instructions should be followed.

- Put the cable trolly on the guiding rail or upon carrier beam and push them together at the starting point. The distance between the bedding surface of two cable trollys must be wider than the double thickness of a cable-packet.
- During the packeting performance, it must be started with the smaller cross section which lays on the bedding surface and will be builded successively so that the biggest cross section is laying on the top.
- Further, be careful of a symmetrical load distribution.
- In case of multicore flat cables with small cross section, smaller than 2,5 mm², is very critical due to its low tensile stress. In such case, you should add 10% reserve wire for calculation.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer dimension app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
26980	4 G 0,75	4,3 x 12,6	28,8	90,0	19
26981	5 G 0,75	4,3 x 16,1	36,0	115,0	19
26982	6 G 0,75	4,3 x 19,4	43,2	141,0	19
26983	9 G 0,75	4,3 x 26,4	64,8	198,0	19
26984	10 G 0,75	4,3 x 30,1	72,0	224,0	19
26985	12 G 0,75	4,3 x 33,8	84,4	258,0	19
26986	16 G 0,75	4,3 x 44,4	115,2	340,0	19
26987	18 G 0,75	4,3 x 49,2	129,6	380,0	19
26988	20 G 0,75	4,3 x 55,0	144,0	424,0	19
26990	3 G 1	4,5 x 10,8	28,8	80,0	18
26991	4 G 1	4,5 x 13,4	38,4	104,0	18
26992	5 G 1	4,5 x 16,0	48,0	134,0	18
26993	6 G 1	4,5 x 20,6	57,6	161,0	18
26994	9 G 1	4,5 x 28,4	86,4	230,0	18
26995	10 G 1	4,5 x 30,0	96,0	256,0	18
26996	12 G 1	4,5 x 36,2	115,2	298,0	18
26997	16 G 1	4,5 x 47,6	153,6	395,0	18
26998	18 G 1	4,5 x 52,8	172,8	441,0	18
26999	20 G 1	4,5 x 59,0	192,0	495,0	18
27000	24 G 1	4,5 x 70,4	230,4	590,0	18
27001	4 G 1,5	4,5 x 13,7	58,0	133,0	16
27002	5 G 1,5	4,5 x 17,9	72,0	169,0	16
27003	7 G 1,5	4,5 x 23,5	101,0	235,0	16
27004	8 G 1,5	4,5 x 26,8	115,0	265,0	16
27005	10 G 1,5	4,5 x 33,5	144,0	332,0	16
27006	12 G 1,5	4,5 x 38,9	173,0	421,0	16

Part no.	No.cores x cross-sec. mm²	Outer dimension app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
26689	12 x 1,5	4,5 x 38,9	173,0	421,0	16
27028	16 G 1,5	4,5 x 51,5	230,4	555,0	16
27030	24 G 1,5	4,5 x 83,0	346,0	820,0	16
27007	4 G 2,5	5,5 x 17,0	96,0	205,0	14
27008	5 G 2,5	5,5 x 21,5	120,0	256,0	14
27009	7 G 2,5	5,5 x 30,3	168,0	344,0	14
27010	8 G 2,5	5,5 x 31,9	192,0	389,0	14
27011	12 G 2,5	5,8 x 47,1	288,0	580,0	14
27029	16 G 2,5	5,8 x 55,1	384,0	674,0	14
27012	24 G 2,5	15,0 x 63,0	604,0	950,0	14
27027	24 G 2,5	5,8 x 120,0	604,0	950,0	14
27013	4 G 4	7,0 x 21,8	154,0	344,0	12
27014	5 G 4	7,0 x 27,4	192,0	428,0	12
27015	7 G 4	7,9 x 36,6	269,0	590,0	12
27016	4 G 6	8,2 x 24,8	230,0	424,0	10
27017	5 G 6	8,2 x 31,8	288,0	530,0	10
27018	7 G 6	8,2 x 42,6	403,0	760,0	10
27019	4 G 10	10,0 x 29,6	384,0	710,0	8
27020	4 G 16	11,2 x 34,4	614,0	1014,0	6
27025	5 G 16	13,0 x 46,6	768,0	1370,0	6
27021	4 G 25	13,7 x 42,6	960,0	1365,0	4
27026	5 G 25	15,5 x 55,5	1200,0	2000,0	4
27022	4 G 35	15,4 x 47,6	1344,0	2100,0	2
27023	4 G 50	18,2 x 57,0	1920,0	2940,0	1
27024	4 G 70	20,0 x 64,2	2688,0	4090,0	2/0
26989	24 G 0,75	4,3 x 65,6	172,8	509,0	19

Dimensions and specifications may be changed without prior notice. (RJ01)

PVC-flat-CY

screened, EMC-preferred type

Technical data

- Special PVC-flat cable, screened, adapted to DIN VDE 0283-2
- **Temperature range**
  flexing -5°C to +70°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  3000 V
- **Breakdown voltage**
  min. 6000 V
- **Minimum bending radius**
  15x cable thickness

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of special PVC
- Core identification see table below
- Cores screened individually or in bunches
- Copper screened braiding, approx. 85% coverage
- Outer sheath of special PVC
- Sheath colour: black (RAL 9005)

Properties

- Extensively oil resistant

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

Note

- G = with GN-YE conductor
  x = without GN-YE conductor
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.

Application

PVC screened flat cables are used mainly as trailing cable for crane installations, floor conveyer systems and shelf control units.

Installation notes

Cables reels with flat cables must be transported in standing position on the flange. A bending flexibility can be achieved on a plane surface. For this purpose, the corresponding fitting instructions should be followed.

- Put the cable trolly on the guiding rail or upon carrier beam and push them together at the starting point. The distance between the bedding surface of two cable trollys must be wider than the double thickness of a cable-packet.
- During the packeting performance, it must be started with the smaller cross section which lays on the bedding surface and will be builded successively so that the biggest cross section is laying on the top.
- Further, be careful of a symmetrical load distribution.
- In case of multicore flat cables with small cross section, smaller than 2,5 mm², is very critical due to its low tensile stress. In such case, you should add 10% reserve wire for calculation.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

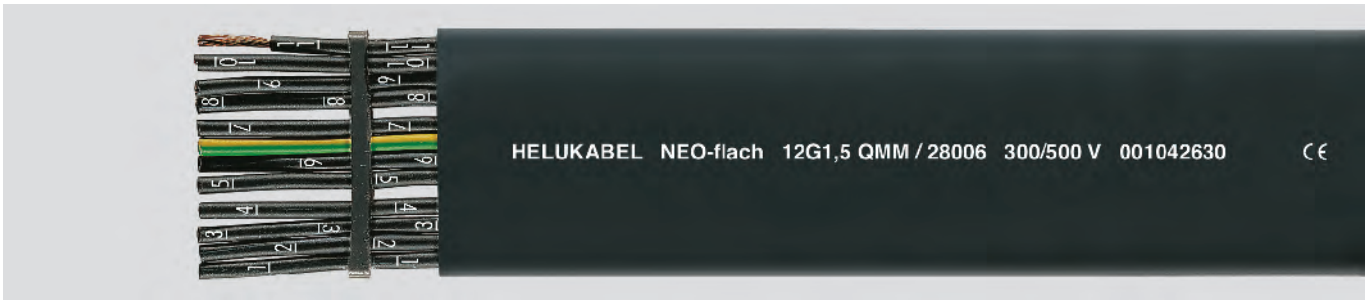
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Core marking	Outer dimension app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
27100	5 G 0,5	Colour coded, DIN VDE 0293	21,0 x 5,0	64,0	140,0	20
11008503	5 x 0,5	Colour coded, DIN VDE 0293	21,0 x 5,0	64,0	140,0	20
27101	5 x 4 x 0,5	Colour coded, (blue, red, green, yellow)	37,4 x 7,2	175,0	280,0	20
27102	8 x 7 x 0,5	Cont. white numbering, DIN VDE 0293	68,6 x 11,7	480,0	1180,0	20
27090	4 G 0,75	Colour coded, DIN VDE 0293	15,0 x 5,0	70,0	147,0	19
26754	4 x 4 x 1	Colour coded, (blue, red, green, yellow)	33,5 x 11,0	310,0	625,0	18
27103	4 x 4 G 1	Cont. white numbering	33,5 x 11,0	310,0	625,0	18
27091	4 G 1,5	Colour coded, DIN VDE 0293	18,7 x 5,9	116,0	210,0	16
27092	8 G 1,5	Cont. white numbering	35,6 x 5,9	217,0	400,0	16
27093	12 G 1,5	Cont. white numbering	52,1 x 5,9	330,0	610,0	16
26688	12 x 1,5	Cont. white numbering	52,1 x 5,9	330,0	610,0	16
27094	4 G 2,5	Colour coded, DIN VDE 0293	21,0 x 6,9	170,0	270,0	14
27104	6 G 2,5	Cont. white numbering, DIN VDE 0293	37,4 x 7,2	240,0	320,0	14
27095	4 G 4	Colour coded, DIN VDE 0293	24,5 x 7,7	225,0	400,0	12
27096	4 G 6	Colour coded, DIN VDE 0293	30,1 x 9,2	328,0	520,0	10
27097	4 G 10	Colour coded, DIN VDE 0293	35,8 x 10,5	525,0	840,0	8
27098	4 G 16	Colour coded, DIN VDE 0293	41,3 x 12,6	788,0	1280,0	6
27099	4 G 25	Colour coded, DIN VDE 0293	48,4 x 14,4	1170,0	1800,0	4

Dimensions and specifications may be changed without prior notice. (RJ01)

NEO-flat

(N)GFLGÖU



Technical data

- Special Neoprene-flat cable adapted to DIN VDE 0250-809
- **Temperature range**
  flexing -30°C to +80°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  3000 V
- **Minimum bending radius**
  10x cable thickness
- **Radiation resistance**
  up to 50x10⁶ cJ/kg (up to 50 Mrad)

Cable structure

- Copper conductor bare or tinned to DIN VDE 0295, BS 6360, IEC 60228
- Conductor construcktion:
  35-120 mm² class 5: fine wire
  1,5-25 mm² class 6 col.4: extra fine wire
- Special rubber core insulation
- Core identification to DIN VDE 0293
  - up to 5 cores coloured
  - from 7 cores, black with continuous white numbering
- Cores laying parallel
- GN-YE conductor
- Outer sheath of special rubber 5GM3, to DIN VDE 0207-21
- Sheath colour: black

Properties

- Special rubber outer sheath, cold-resistant
- Extensively oil resistant, oil-/chemical resistance see "Technical Informations"
- Extremely small bending radius
- High flexibility
- Minimum waste of space
- Packeting possibility
- Outdoor application

Tests

- Behaviour in fire
  acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

Note

- G = with GN-YE conductor
- Part no. 28007 and 28013 (6x4).
- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Application

Neoprene type of flat cables are used mainly as trailing cable for crane installations, floor conveyer systems and shelf control units. These cables are also available for export with UL-approval on request.

Installation notes

Cables reels with flat cables must be transported in standing position on the flange. A bending flexibility can be achieved on a plane surface. For this purpose, the corresponding fitting instructions should be followed.

- Put the cable trolly on the guiding rail or upon carrier beam and push them together at the starting point. The distance between the bedding surface of two cable trollys must be wider than the double thickness of a cable-packet.
- During the packeting performance, it must be started with the smaller cross section which lays on the bedding surface and will be builded successively so that the biggest cross section is laying on the top.
- Further, be careful of a symmetrical load distribution.
- In case of multicore flat cables with small cross section, smaller than 2,5 mm², is very critical due to its low tensile stress. In such case, you should add 10% reserve wire for calculation.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer dimension app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
28001	4 G 1,5	5,9 x 16,2	58,0	234,0	16
28002	5 G 1,5	5,9 x 23,7	72,0	304,0	16
28003	7 G 1,5	5,9 x 30,5	101,0	391,0	16
28004	8 G 1,5	5,9 x 34,0	115,0	441,0	16
28005	10 G 1,5	5,9 x 43,5	144,0	460,0	16
28006	12 G 1,5	6,5 x 50,4	173,0	646,0	16
28007	24 G 1,5 (6 x 4)	13,0 x 56,0	346,0	1290,0	16
28008	4 G 2,5	7,2 x 19,6	96,0	316,0	14
28009	5 G 2,5	7,2 x 27,8	120,0	391,0	14
28010	7 G 2,5	7,2 x 36,1	168,0	533,0	14
28011	8 G 2,5	7,2 x 40,2	192,0	602,0	14
28012	12 G 2,5	7,8 x 59,4	288,0	890,0	14
28013	24 G 2,5 (6 x 4)	15,5 x 66,8	576,0	1480,0	14
28014	4 G 4	8,8 x 24,2	154,0	506,0	12
28015	5 G 4	8,8 x 33,4	192,0	621,0	12
28016	7 G 4	8,8 x 42,5	269,0	851,0	12
28017	4 G 6	9,6 x 27,4	230,0	661,0	10

Part no.	No.cores x cross-sec. mm²	Outer dimension app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
28018	5 G 6	9,6 x 37,4	288,0	740,0	10
28019	7 G 6	9,6 x 47,2	403,0	1004,0	10
28020	4 G 10	10,4 x 30,8	384,0	1027,0	8
28021	5 G 10	10,4 x 41,6	480,0	1171,0	8
28022	4 G 16	11,6 x 35,6	614,0	1430,0	6
28023	5 G 16	12,2 x 48,2	768,0	1590,0	6
28024	4 G 25	14,1 x 45,8	960,0	1890,0	4
28025	5 G 25	14,7 x 58,3	1200,0	2215,0	4
28026	7 G 25	15,3 x 78,7	1680,0	3000,0	4
28027	4 G 35	15,8 x 50,8	1344,0	2460,0	2
28028	5 G 35	16,4 x 64,4	1680,0	2880,0	2
28029	7 G 35	16,4 x 86,4	2352,0	4100,0	2
28030	4 G 50	18,6 x 60,2	1920,0	3385,0	1
28031	4 G 70	21,0 x 68,0	2688,0	4480,0	2/0
28032	4 G 95	24,1 x 78,6	3648,0	5990,0	3/0
28033	4 G 120	25,5 x 84,2	4608,0	7240,0	4/0

Dimensions and specifications may be changed without prior notice. (RJ01)

NEO-flat-C

(MCHÖU) screened, EMC-preferred type

Technical data

- Special-Neoprene-flat cable, screened, adapted to DIN VDE 0250-809
- **Temperature range**
  flexing -30°C bis +80°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  3000 V
- **Minimum bending radius**
  15x cable thickness
- **Radiation resistance**
  up to 50x10⁶ cJ/kg (up to 50 Mrad)

Cable structure

- Copper conductor bare or tinned to DIN VDE 0295 cl.6, extra fine wire, BS 6360 cl.6, IEC 60228 cl.6
- Core insulation of special rubber
- Core identification to DIN VDE 0293
  - up to 5 cores coloured
  - from 7 cores, black with continuous white numbering
- GN-YE conductor
- Cores screened individually
- Cores laying parallel
- Copper screened braiding, approx. 85% coverage
- Outer sheath of special Neoprene
- Outer sheath coulor: black (RAL 9005)

Properties

- Outer sheath cold resistant
- Extensively oil resistant
- Extremely small bending radius
- High flexibility
- Minimum waste of space
- Packeting possibility
- The high degree of screening density assures disturbance-free transmission of all signal and impulses
- Outdoor application

Tests

- Behaviour in fire
  acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

Note

- G = with GN-YE conductor
- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Application

Neoprene screened flat cables are used mainly as trailing cable for crane installations, floor conveyer systems and shelf control units. These cables are also available for export with UL-approval on request.

Installation notes

Cables reels with flat cables must be transported in standing position on the flange. A bending flexibility can be achieved on a plane surface. For this purpose, the corresponding fitting instructions should be followed.

- Put the cable trolly on the guiding rail or upon carrier beam and push them together at the starting point. The distance between the bedding surface of two cable trollys must be wider than the double thickness of a cable-packet.
- During the packeting performance, it must be started with the smaller cross section which lays on the bedding surface and will be builded successively so that the biggest cross section is laying on the top.
- Further, be careful of a symmetrical load distribution.
- In case of multicore flat cables with small cross section, smaller than 2,5 mm², is very critical due to its low tensile stress. In such case, you should add 10% reserve wire for calculation.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	Outer dimension app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
28100	8 G 1,5	7,9 x 42,0	231,0	520,0	16
28101	12 G 1,5	7,9 x 61,0	346,0	790,0	16
28102	4 G 2,5	8,5 x 25,5	164,0	420,0	14

Part no.	No.cores x cross-sec. mm²	Outer dimension app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
28103	6 G 2,5	8,5 x 34,5	247,0	540,0	14
28104	12 G 2,5	8,9 x 68,0	494,0	1000,0	14
28302	4 G 25	16,0 x 51,0	1116,0	1650,0	4

Dimensions and specifications may be changed without prior notice. (RJ01)

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H05V-K

PVC-Single Core, fine wire

Technical data

- PVC single core acc. to DIN VDE 0285-525-2-31 / DIN EN 50525-2-31 / IEC 60227-3
- **Temperature range**
  flexing -5°C to +70°C
  fixed installation -30°C to +80°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  2000 V
- **Insulation resistance**
  min. 10 MOhm x km
- **Minimum bending radius**
  fixed insatallation 4x core Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of PVC compound type TI1 acc. to DIN VDE 0207-363-3 / DIN EN 50363-3
- Core identification: see table below

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

Note

- The following colours are recommended: black, white, blue, grey, brown, red, orange, turquoise, violet and pink. Exceptions are the colours green and yellow; these are only permitted if the safety regulations allows. Green is permitted for the identification of luminous decorative chains. All 2-coloured combinations of the above single colours are allowed

Application

These single cores are determined for the installation to the inside of apparatus as well as for the protective laying to the lightings, in dry rooms, in production facilities, switch and distributor boards, in tubes, under and surface mounting of plasters.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

H05V-K

Cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	PK	GN	TRANS	D-BU	OG	o.col.	2-col.
app. RAL			9005	-	5015	8003	3000	9003	7001	4005	1021	3015	6018	-	5010	2003	-	-

Coil in cardboard (100m)

Packing																		
H05V-K coil / cardboard																		
Part no.			29081	29082	29083	29084	29085	29086	29087	29088	29089	29090	29091	29092	29093	29094	29095	29096
0,5	2,1 - 2,5	4,8																
Part no.			26386	29097	29098	29099	29100	29101	29102	29103	29104	29105	29106	29107	29108	29109	29110	29111
0,5	2,1 - 2,5	4,8																
Part no.			29112	26387	29113	29114	29115	29116	29117	29118	29119	29120	29121	29122	29123	29124	29125	29126
0,75	2,2 - 2,7	7,2																
Part no.			29127	29128	26388													
1	2,4 - 2,8	9,6																

Spool (with various capacity)

Packing																		
H05V-K spool																		
Part no.			26590	26591	26592	26593	26594	26595	26596	26597	26598	26599	26600	26601	26602	26603	26604	26605
0,5	2,1 - 2,5	4,8																
Part no.			26389	26606	26607	26608	26609	26610	26611	26612	26613	26614	26615	26616	26617	26618	26619	26620
0,5	2,1 - 2,5	4,8																
Part no.			26621	26390	26622	26623	26624	26625	26626	26627	26628	26629	26630	26631	26632	26633	26634	26635
0,75	2,2 - 2,7	7,2																
Part no.			26636	26637	26391													
1	2,4 - 2,8	9,6																

Continuation ▸

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H05V-K

PVC-Single Core, fine wire

H05V-K

Cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	PK	GN	TRANS	D-BU	OG	o.col.	2-col.
app. RAL			9005	-	5015	8003	3000	9003	7001	4005	1021	3015	6018	-	5010	2003	-	-

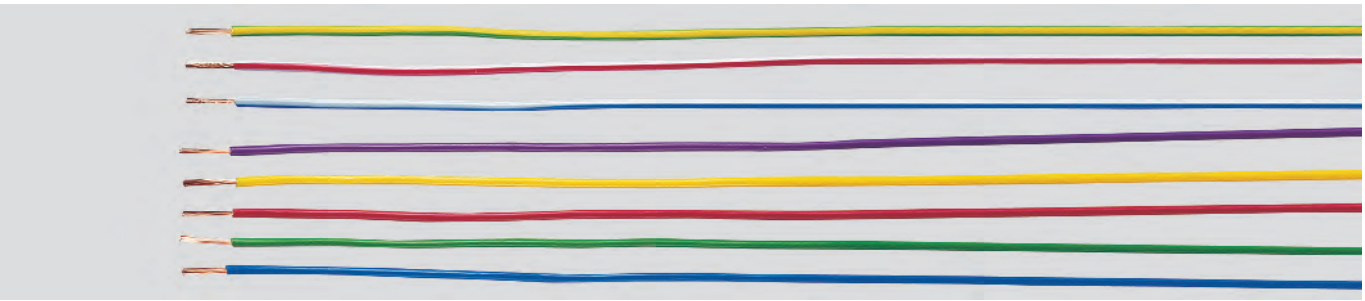
Packing — **Barrel (with various capacity)**

H05V-K barrel																		
Part no.			26640	26641	26642	26643	26644	26645	26646	26647	26648	26649	26650	26651	26652	26653	26654	26655
0,5	2,1 - 2,5	4,8																
Part no.			26392	26656	26657	26658	26659	26660	26661	26662	26663	26664	26665	26666	26667	26668	26669	26670
0,5	2,1 - 2,5	4,8																
Part no.			26671	26393	26672	26673	26674	26675	26676	26677	26678	26679	26680	26681	26682	26683	26684	26685
0,75	2,2 - 2,7	7,2																
Part no.			26686	26687	26394													
1	2,4 - 2,8	9,6																

Dimensions and specifications may be changed without prior notice. (RK01)

H07V-K / (H)07V-K

PVC-Single Cores, fine wire stranded



Technical data

- PVC single core acc. to DIN VDE 0285-525-2-31 / DIN EN 50525-2-31 / IEC 60227-3
- **Temperature range** flexing +5°C to +70°C fixed installation -30°C to +80°C
- **Nominal voltage** U_0/U 450/750 V
- **Test voltage** 2500 V
- **Insulation resistance** at +70°C nach DIN VDE 0285-525-2-31
- **Minimum bending radius** fixed installation core Ø ⩽ 8 mm: 4x core Ø core Ø > 8-1 2 mm: 5x core Ø core Ø > 12 mm: 6x core Ø

Cable structure

- Bare copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of PVC compound type TI1 acc. to DIN VDE 0207-363-3 / DIN EN 50363-3
- Core identification: see table below

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

Note

- Approved mark: black, green-yellow, blue, brown, red, white grey, violet, pink, orange and turquoise
- Two-coloured combinations are not allowed, with exceptions of green-yellow
- Version yellow, green, transparent and two-colour are only available in adaption designatio **07V-K**

Application

Installation in electrical installation pipes either on or underneath plaster or in similar closed systems. Suitable for protected laying in lighting systems or switching or control devices for voltages including 1000 V AC or up to 750 V DC voltage. Not be used for direct laying on cable ladders and cable trays, except as a potential equalisation cable.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	PK	GN	TRANS	D-BU	OG	2-col.	U-BU
app. RAL			9005	-	5015	8003	3000	9003	7001	4005	1021	3015	6018	-	5010	2003	-	5002

Coil in cardboard (100m)

Packing																		
H07V-K coil																		
Part no.			29129	29130	29131	29132	29133	29134	29135	29136	29137	29138	29139	29140	29141	29142	29144	26395
1,5	2,8 - 3,4	14,4																
Part no.			29145	29146	29147	29148	29149	29150	29151	29152	29153	29154	29155	29156	29157	29158	29160	26396
2,5	3,4 - 4,1	24,0																
Part no.			29161	29162	29163	29164	29165	29166	29167	29168	29169	29170	29171	29172	29173	29174	29176	26397
4	3,9 - 4,8	38,0																
Part no.			29177	29178	29179	29180	29181	29182	29183	29184	29185	29186	29187	29188	29189	29190	29192	26398
6	4,4 - 5,3	58,0																

Spool (with various capacity)

Packing																		
H07V-K spool																		
Part no.			26690	26691	26692	26693	26694	26695	26696	26697	26698	26699	26700	26701	26702	26703	26705	26399
1,5	2,8 - 3,4	14,4																
Part no.			26706	26707	26708	26709	26710	26711	26712	26713	26714	26715	26716	26717	26718	26719	26721	26400
2,5	3,4 - 4,1	24,0																
Part no.			26722	26723	26724	26725	26726	26727	26728	26729	26730	26731	26732	26733	26734	26735	26737	26401
4	3,9 - 4,8	38,0																
Part no.			26738	26739	26740	26741	26742	26743	26744	26745	26746	26747	26748	26749	26750	26751	26753	26402
6	4,4 - 5,3	58,0																

Continuation ▸

H07V-K / (H)07V-K

PVC-Single Cores, fine wire stranded

Cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	PK	GN	TRANS	D-BU	OG	2-col.	U-BU
app. RAL			9005	-	5015	8003	3000	9003	7001	4005	1021	3015	6018	-	5010	2003	-	5002
Packing			**Barrel (with various capacity)**															
H07V-K barrel																		
Part no. 1,5	2,8 - 3,4	14,4	26755	26756	26757	26758	26759	26760	26761	26762	26763	26764	26765	26766	26767	26768	26770	26403
Part no. 2,5	3,4 - 4,1	24,0	26771	26772	26773	26774	26775	26776	26777	26778	26779	26780	26781	26782	26783	26784	26786	26404
Part no. 4	3,9 - 4,8	38,0	26787	26788	26789	26790	26791	26792	26793	26794	26795	26796	26797	26798	26799	26800	26802	26819
Part no. 6	4,4 - 5,3	58,0	26803	26804	26805	26806	26807	26808	26809	26810	26811	26812	26813	26814	26815	26816	26818	26820

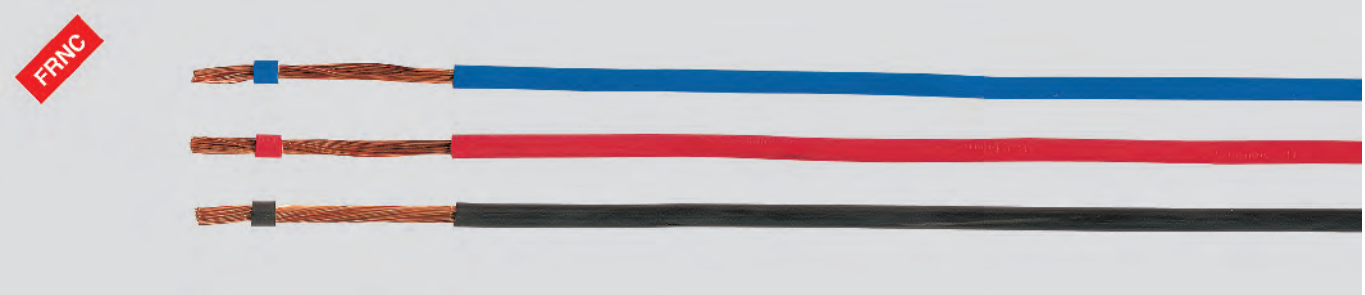
Packing			**Coil in foil (100m)**															
H07V-K coil																		
Part no. 1,5	2,8 - 3,4	14,4	26060	26061	26062	26063	26064	26065	26066	26067	26068	26069	26092	26099	26108	26109	26111	26821
Part no. 2,5	3,4 - 4,1	24,0	26112	26113	26114	26115	26116	26117	26118	26119	29855	29856	29857	29858	29859	29890	29892	26822
Part no. 4	3,9 - 4,8	38,0	29893	29894	29895	29896	29897	29898	29899	29905	29906	29907	29908	29909	29910	29911	29913	26823
Part no. 6	4,4 - 5,3	58,0	29914	29915	29916	29917	29918	29919	29921	29922	29923	29924	29925	29926	29927	29928	29933	26824
Part no. 10	5,7 - 6,8	96,0	29193	29194	29195	29196	29197	29198	29199	29200	29201	29202	29203	29204	29205	29206	29208	-
Part no. 16	6,7 - 8,1	154,0	29209	29210	29211	29212	29213	29214	29215	29216	29217	29218	29219	29220	29221	29222	29224	-
Part no. 25	8,4 - 10,2	240,0	29225	29226	29227	29228	29229	29230	29231	29232	29233	29234	29235	29236	29237	29238	29240	-
Part no. 35	9,7 - 11,7	336,0	29241	29242	29243	29244	29245	29246	29247	29248	29249	29250	29251	29252	29253	29254	29256	-
Part no. 50	11,5 - 13,9	480,0	29257	29258	29259	29260	29261	29262	29263	29264	29265	29266	29267	29268	29269	29270	29272	-
Part no. 70	13,2 - 16,0	672,0	29273	29274	29275	29276	29277	29278	29279	29280	29281	29282	29283	29284	29285	29286	29288	-
Part no. 95	15,1 - 18,2	912,0	29289	29290	29291	29292	29293	29294	29295	29296	29297	29298	29299	29300	29301	29302	29304	-
Part no. 120	16,7 - 20,2	1152,0	29418	29419	29420	29421	29422	29423	29424	29425	29426	29427	29428	29429	29430	29431	29433	-
Part no. 150	18,6 - 22,5	1440,0	29434	29435	29436	29437	29438	29439	29440	29441	29442	29443	29444	29445	29446	29447	29449	-
Part no. 185	20,6 - 24,9	1776,0	29494	29495	29496	29497	29498	29499	29590	29591	29592	29593	29594	29595	29596	29597	29599	-
Part no. 240	23,5 - 28,4	2304,0	29813	29814	29815	29816	29817	29818	29819	29840	29841	29842	29843	29844	29845	29846	29848	-

Packing			**Drum**															
H07V-K drum																		
Part no. 10	5,7 - 6,8	96,0	26825	26826	26827	26828	26829	26830	26831	26832	26833	26834	26835	26836	26837	26838	26840	-
Part no. 16	6,7 - 8,1	154,0	26841	26842	26843	26844	26845	26846	26847	26848	26849	26850	26851	26852	26853	26854	26856	-
Part no. 25	8,4 - 10,2	240,0	26857	26858	26859	26860	26861	26862	26863	26864	26865	26866	26867	26868	26869	26870	26872	-
Part no. 35	9,7 - 11,7	336,0	26873	26874	26875	26876	26877	26878	26879	26880	26881	26882	26883	26884	26885	26886	26888	-
Part no. 50	11,5 - 13,9	480,0	26889	26890	26891	26892	26893	26894	26895	26896	26897	26898	26899	26900	26901	26902	26904	-
Part no. 70	13,2 - 16,0	672,0	26905	26906	26907	26908	26909	26910	26911	26912	26913	26914	26915	26916	26917	26918	26920	-
Part no. 95	15,1 - 18,2	912,0	26921	26922	26923	26924	26925	26926	26927	26928	26929	26930	26931	26932	26933	26934	26936	-
Part no. 120	16,7 - 20,2	1152,0	29305	29306	29307	29308	29309	29310	29311	29312	29313	29314	29315	29316	29317	29318	29320	-
Part no. 150	18,6 - 22,5	1440,0	29321	29322	29323	29324	29325	29326	29327	29328	29329	29330	29331	29332	29333	29334	29336	-
Part no. 185	20,6 - 24,9	1776,0	29337	29338	29339	29340	29341	29342	29343	29344	29345	29346	29347	29348	29349	29350	29352	-
Part no. 240	23,5 - 28,4	2304,0	29353	29354	29355	29356	29357	29358	29359	29360	29361	29362	29363	29364	29365	29366	29368	-
Part no. 300	26,0 - 30,5	2880,0	28878	28879	28880	28881	28882	28883	28884	28885	28886	28887	28888	-	28889	28890	28891	-

Dimensions and specifications may be changed without prior notice. (RK01)

H05Z-K / H07Z-K

Single core, halogen-free



Technical data

- Single cores for low emission of smoke and corrosive gases in case of fire to DIN VDE 0285-525-3-41 / DIN EN 50525-3-41
- **Conductor resistance** acc. to DIN VDE 0295 cl.5
- **Temperature range** -40°C to +90°C
- Permissible conductor **operating temperature** +90°C
- **Nominal voltage**
  H05Z-K = U_0/U 300/500 V
  H07Z-K = U_0/U 450/750 V
- **Test voltage** 2500 V
- **Insulation resistance** at 90°C to DIN VDE 0282-9
- **Minimum bending radius** fixed installation
  core Ø ⩽ 8 mm 4x core Ø
  core Ø > 8-12 mm 5x core Ø
  core Ø > 12 mm 6x core Ø
- **Radiation resistance** up to 20x10⁶ cJ/kg (up to 20 Mrad)

Cable structure

- Bare copper conductor, to DIN VDE 0295 cl.5, fine wire, BS 6360 cl.5, IEC 60228 cl.5
- Separating foil over conductor permitted
- Core insulation of cross-linked polyolefin compound type EI5 to DIN VDE 0207-363-5 / DIN EN 50363-5
- Core identification: see table below
- **LS0H** = Low Smoke Zero Halogen

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Self-extinguishing and flame retardant acc. o DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Ozone resistant acc. to DIN VDE 0473-811-403/DIN EN 60811-403
- Smoke density acc. to DIN VDE 0482-1034-1+2 / BS 7622-1+2 DIN EN 61034-1+2 / IEC 61034-1+2
- Halogen-free acc. to DIN VDE 0285-525-1/DIN EN 50525-1 appendix B

Note

- Type H07Z-K
  Colour yellow only as (H)07Z-K available

Application

Halogen-free single core wires are used for installation in dry environments for wiring up lighting fixtures and units where valuable assets are to protected from further damage resulting from fire. These types are suitable for laying in tubes on and under plaster, as well as in closed installation ducts.

H07Z-K, suitable for protected, permanent laying in or on lighting installations or switching and control equipment up to 1000 V AC or 750 V DC to earth.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

H05Z-K

Cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	D-BU	OG	U-BU
Part no.				52872	52873	52874	52875	52876	52877	52878	52879	52880	52945	52946	53071
0,5	2,1 - 2,6	4,8	9,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				52881	52882	52883	52884	52885	52886	52887	52888	52889	52947	52948	53072
0,75	2,2 - 2,8	7,2	12,4	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				52890	52891	52892	52893	52894	52895	52896	52897	52898	52949	52950	53073
1	2,4 - 2,9	9,6	15,0	-	-	-	-	-	-	-	-	-	-	-	-

H07Z-K

Cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	D-BU	OG	U-BU
Part no.				51768	51769	51770	51771	51772	51773	51774	51775	51776	52951	52952	53074
1,5	2,8 - 3,5	14,4	24,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51777	51778	51779	51780	51781	51782	51783	51784	51785	52953	52954	53075
2,5	3,4 - 4,3	24,0	35,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51786	51787	51788	51789	51790	51791	51792	51793	51794	52955	52956	53076
4	3,9 - 4,9	38,0	51,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51795	51796	51797	51798	51799	51800	51801	51802	51803	52957	52958	53077
6	4,4 - 5,5	58,0	71,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51804	51805	51806	51807	51808	51809	51810	51811	51812	52959	52960	53078
10	5,7 - 7,1	96,0	118,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51813	51814	51815	51816	51817	51818	51819	51820	51821	52961	52962	53079
16	6,7 - 8,4	154,0	180,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51822	51823	51824	51825	51826	51827	51828	51829	51830	52963	52964	53080
25	8,4 - 10,6	240,0	278,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51831	51832	51833	51834	51835	51836	51837	51838	51839	52965	52966	53081
35	9,7 - 12,1	336,0	375,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51840	51841	51842	51843	51844	51845	51846	51847	51848	52967	52968	53082
50	11,5 - 14,4	480,0	560,0	-	-	-	-	-	-	-	-	-	-	-	-

Continuation ▸

H05Z-K / H07Z-K

Single core, halogen-free

H07Z-K

Cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	D-BU	OG	U-BU
Part no.				51849	51850	51851	51852	51853	51854	51855	51856	51857	52969	52970	53083
70	13,2 - 16,6	672,0	780,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51858	51859	51860	51861	51862	51863	51864	51865	51866	52971	52972	53084
95	15,1 - 18,8	912,0	952,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51867	51868	51869	51870	51871	51872	51873	51874	51875	52973	52974	53085
120	16,7 - 20,9	1152,0	1200,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51876	51877	51878	51879	51880	51881	51882	51883	51884	52975	52976	53086
150	18,6 - 23,3	1440,0	1505,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51885	51886	51887	51888	51889	51890	51891	51892	51893	52977	52978	53087
185	20,6 - 25,8	1776,0	1845,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				51894	51895	51896	51897	51898	51899	51900	51901	51902	52979	52980	53088
240	23,5 - 29,4	2304,0	2400,0	-	-	-	-	-	-	-	-	-	-	-	-

H05Z-K two colour

Cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	RD/WH	BU/WH	BN/WH	D-BU/WH
Part no.				51392	51393	51394	51395
0,5	2,1 - 2,6	4,8	9,0				
Part no.				51396	51397	51398	51399
0,75	2,2 - 2,8	7,2	12,4				
Part no.				51400	51401	51402	51403
1	2,4 - 2,9	9,6	15,0				

H07Z-K two colour

Cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	RD/WH	BU/WH	BN/WH	D-BU/WH
Part no.				51404	51405	51406	51407
1,5	2,8 - 3,5	14,4	24,0				
Part no.				51408	51409	51410	51411
2,5	3,4 - 4,3	24,0	35,0				
Part no.				51412	51413	51414	51415
4	3,9 - 4,9	38,0	51,0				
Part no.				51416	51417	51418	50899
6	4,4 - 5,5	58,0	71,0				

H05Z-K, barrel (with various capacity)

Cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	D-BU	OG	U-BU
Part no.				52809	52810	52811	52812	52813	52814	52815	52816	-	52817	52819	-
0,5	2,1 - 2,6	4,8	9,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				52821	52822	52823	52824	52825	52826	52827	52828	-	52829	52831	-
0,75	2,2 - 2,8	7,2	12,4	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				52833	52834	52835	52836	52837	52838	52839	52840	-	52841	52843	-
1	2,4 - 2,9	9,6	15,0	-	-	-	-	-	-	-	-	-	-	-	-

H07Z-K, barrel (with various capacity)

Cross-sec. mm²	Outer Ø min. - max. mm	Cop. weight kg / km	Weight app. kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	D-BU	OG	U-BU
Part no.				52845	52846	52847	52848	52849	52850	52851	52852	-	52853	52855	-
1,5	2,8 - 3,5	14,4	24,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				52857	52858	52859	52860	52861	52862	52863	52864	-	52865	52867	-
2,5	3,4 - 4,3	24,0	35,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				52135	52136	52137	52138	52139	52140	52141	52142	-	52143	52144	-
4	3,9 - 4,9	38,0	51,0	-	-	-	-	-	-	-	-	-	-	-	-
Part no.				52145	52146	52147	52148	52149	52150	52151	52152	-	52153	52154	-
6	4,4 - 5,5	58,0	71,0	-	-	-	-	-	-	-	-	-	-	-	-

Dimensions and specifications may be changed without prior notice. (RK01)

UL-Style 1015

PVC single core, 600 V

Technical data

- PVC-single core acc. to UL AWM Style 1015/ MTW and CSA-AWM/TEW
- **Temperature range**
  flexible -5°C to +105°C
  fixed installation -30°C to +105°C
- **Nominal voltage**
  600 V
- **Test voltage** (Spark test)
  AWG 24 = 4 kV
  AWG 22 - 20 = 5 kV
  AWG 18 - 10 = 6 kV
  from AWG 8 = 7,5 kV
- UL type **AWM+MTW** 105°C 600 V
- CSA type **AWM+TEW** 105°C 600 V
- **Minimum bending radius**
  flexible 10x core Ø
  fixed installation 5x core Ø

Cable structure

- Tinned copper conductor, acc. to UL Std.758 with AWG dimensions
- Core insulation of PVC heat and damp resistant acc. to class 43 and CSA C22.2 No.210 UL VW-1 and CSA FT1 to UL Std.1581
- For structural reasons, constructive changes are possible
- AWG 24 without MTW

Properties

- **Conditionally resistant to**
  Oils
  Solvents
  Acids
  Lyes
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- PVC self-extinguishing and flame retardant, test method to UL VW-1 / CSA FT1

Note

- Please add the appropriate item number when ordering using the following indicator:
  00 = green, 01 = black, 02 = blue,
  03 = brown, 04 = red, 05 = white,
  06 = grey, 07 = violet, 08 = yellow,
  09 = orange, 10 = transparent, 11 = pink,
  12 = beige, 13 = green-yellow,
  14 = blue/white, 15 = dark blue,
  27 = white/blue
  (supply up to AWG 8)

Application

For the internal wiring of switchbords, electrical equipment, e. g. households, radio or televisions and control desks. Connecting wires in machines laid in predective tubes and flexible pipes and also for motors and transformators. UL bzw. CSA:
AWM = **A**ppliance **W**iring **M**aterial
For internal wirings for electrical equipment and control apparatus e. g. electronic assembly components.
UL-MTW: Machine Tool Wires
CSA-TEW: Equipment Lead Wires
MTW = **M**achine **T**ool **W**ire
For the electronical installation of machine tools and the relative control.
UL = **U**nderwriters **L**aboratories Inc. (USA)
CSA = **C**anadian **S**tandards **A**ssociation (Canada)
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
601xx	1 x 0,21	24	2,2	2,3	8,0
602xx	1 x 0,33	22	2,4	3,2	10,0
603xx	1 x 0,52	20	2,6	5,0	12,0
604xx	1 x 0,81	18	2,9	7,9	16,0
605xx	1 x 1,31	16	3,2	12,6	22,0
606xx	1 x 2,08	14	3,5	20,7	31,0
607xx	1 x 3,32	12	4,2	33,0	45,0
608xx	1 x 5,26	10	4,8	51,6	65,0
609xx	1 x 8,35	8	6,5	80,6	110,0
610xx	1 x 13,29	6	8,2	125,0	175,0
611xx	1 x 21,14	4	9,9	201,0	260,0
612xx	1 x 26,65	3	10,7	253,0	340,0

Part no.	No.cores x cross-sec. mm²	AWG-No.	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km
613xx	1 x 33,61	2	11,5	317,0	380,0
614xx	1 x 42,38	1	13,3	399,0	500,0
615xx	1 x 53,47	1/0	14,2	500,0	615,0
616xx	1 x 67,4	2/0	15,8	631,0	750,0
617xx	1 x 84,97	3/0	17,5	792,0	900,0
618xx	1 x 107,17	4/0	19,2	996,0	1070,0
62501	1 x 127	250 kcmil	21,7	1178,0	1280,0
62601	1 x 152	300 kcmil	22,7	1410,0	1518,0
62701	1 x 178	350 kcmil	26,3	1645,0	1756,0
62801	1 x 203	400 kcmil	27,2	1902,0	2002,0
62901	1 x 254	500 kcmil	28,3	2345,0	2475,0

Dimensions and specifications may be changed without prior notice. (RN06)

FIVENORM

HAR-UL-CSA-AWM-MTW, PVC single core, UL Style 10269 / UL Standard 1063, 600 V, 105°C

Technical data

- PVC-single cores acc. to DIN VDE 0285-525-2-31/ DIN EN 50525-2-31, UL Std.1063, UL Style 10269 and CSA-TEW and CSA-AWM I A/B
- **Temperature range**
  H05V2-K / H07V2-K
  flexing +5°C to +90°C
  fixed installation -40°C to +90°C
  UL (AWM) -40°C to +105°C
  UL (MTW) -40°C to +90°C
  CSA (TEW) -40°C to +105°C
- **Nominal voltage**
  up to 1 mm² H05V2-K: U_0/U 300/500 V
  from 1,5 mm² H07V2-K: U_0/U 450/750 V
  UL (AWM) 1000 V (AC)
  UL (AWM) 1250 V (DC)
  UL (MTW) 600 V
  CSA (TEW) 600 V
- **Test voltage**
  H05V2-K = 2000 V
  H07V2-K = 2500 V
- **Test voltage** (Spark Test)
  0,5 mm² = 5 kV
  ⩾ 0,75 mm² = 6 kV
- **Insulation resistance**
  min. 20 MOhm x km
- **Minimum bending radius**
  fixed installation for core Ø:
  ⩽ 8 mm: 4x core Ø
  > 8-12 mm: 5x core Ø
  > 12 mm: 6x core Ø

Cable structure

- Bare copper fine wire stranded to DIN VDE 0295 cl.5, BS 6360 cl.5 and IEC 60228 cl.5, acc. to UL Std.758
- Core insulation of PVC compound type TI3 to DIN VDE 0207-363-3/DIN EN 50363-3 CSA-C 22.2 No. 210 tab.12 class H and class 43 acc. to UL Std.1581
- Core identification to DIN VDE 0293

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- PCV self-extinguishing and flame retardant acc. to DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2 (equivalent DIN VDE 0472 part 804 test method B), UL VW-1, CSA FT1

Note

- Tinned conductor on request.
- up to = 1,0 mm² = H05V2-K, from 1,5 mm² up to 35 mm² = H07V2-K. Cross-sections up to 35 mm² is acc. to DIN VDE 0285-525-2-31. Due to this cross section >35 mm² is the type H07V-K but with an increased heat-resistant PVC-compound TI3.
- **Type H05V:**
  approved one-colour mark: black, blue, brown, grey, orange, pink, red, turquoise, violet, white, green and yellow.
  Two-coloured mark in any combination of the above individual colours.
- **Type H07V:**
  approved mark: black, blue, brown, grey, orange, pink, red, turquoise, violet, white and green-yellow.
  Other marks are available as (H).

Application

Five norms approved connecting jumper wire primarily designed for exportes, used in machine tools. The approbation of HAR, UL-AWM, UL-MTW, CSA-AWM, CSA-Equipment-wire make possible an economical storekeeping and simplification of parts list.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

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Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	PK	GN	TRANS	D-BU	OG	o.col.	2-col.
app. RAL			9005	-	5015	8003	3000	1013	7000	4005	1021	3015	6018	-	5010	2003	-	-
Part no. 0,5 / 22	2,5	5,2	64075	64076	64077	64078	64079	64080	64081	64082	64083	64084	64085	64086	64087	64088	64089	64090
Part no. 0,75 / 20	2,65	7,2	64091	64092	64093	64094	64095	64096	64097	64098	64099	64100	64101	64102	64103	64104	64105	64106
Part no. 1 / 18	2,8	9,6	64107	64108	64109	64110	64111	64112	64113	64114	64115	64116	64117	64118	64119	64120	64121	64122

Continuation ▸

FIVENORM

HAR-UL-CSA-AWM-MTW, PVC single core, UL Style 10269 / UL Standard 1063, 600 V, 105°C

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Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	PK	GN	TRANS	D-BU	OG	o.col.	2-col.
app. RAL			9005	-	5015	8003	3000	1013	7000	4005	1021	3015	6018	-	5010	2003	-	-
Part no. 1,5 / 16	3,05	14,4	64123	64124	64125	64126	64127	64128	64129	64130	64131	64132	64133	64134	64135	64136	64137	64138
Part no. 2,5 / 14	3,6	24,0	64139	64140	64141	64142	64143	64144	64145	64146	64147	64148	64149	64150	64151	64152	64153	64154
Part no. 4 / 12	4,1	38,0	64155	64156	64157	64158	64159	64160	64161	64162	64163	64164	64165	64166	64167	64168	64169	64170
Part no. 6 / 10	4,8	58,0	64171	64172	64173	64174	64175	64176	64177	64178	64179	64180	64181	64182	64183	64184	64185	64186
Part no. 10 / 8	6,4	96,0	64187	64188	64189	64190	64191	64192	64193	64194	64195	64196	64197	64198	64199	64200	64201	64202
Part no. 16 / 6	8,1	154,0	64203	64204	64205	64206	64207	64208	64209	64210	64211	64212	64213	64214	64215	64216	64217	64218
Part no. 25 / 4	9,6	240,0	64219	64220	64221	64222	64223	64224	64225	64226	64227	64228	64229	64230	64231	64232	64233	64234
Part no. 35 / 2	10,8	336,0	64235	64236	64237	64238	64239	64240	64241	64242	64243	64244	64245	64246	64247	64248	64249	64250
Part no. 50 / 1	13,6	480,0	64251	64252	64253	64254	64255	64256	64257	64258	64259	64260	64261	64262	64263	64264	64265	64266
Part no. 70 / 2/0	15,2	672,0	64267	64268	64269	64270	64271	64272	64273	64274	64275	64276	64277	64278	64279	64280	64281	64282
Part no. 95 / 3/0	16,8	912,0	64283	64284	64285	64286	64287	64288	64289	64290	64291	64292	64293	64294	64295	64296	64297	64298
Part no. 120 / 4/0	19,5	1152,0	64299	64300	64301	64302	64303	64304	64305	64306	64307	64308	64309	64310	64311	64312	64313	64314
Part no. 150 / 300 kcmil	22,2	1440,0	64315	64316	64317	64318	64319	64320	64321	64322	64323	64324	64325	64326	64327	64328	64329	64330

Barrel (with various capacity)

Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	PK	GN	TRANS	D-BU	OG	o.col.	2-col.
app. RAL			9005	-	5015	8003	3000	1013	7000	4005	1021	3015	6018	-	5010	2003	-	-
Part no. 0,5 / 22	2,5	5,2	65402	65403	65404	65405	65406	65407	65408	65409	65413	65410	65412		65414	65411		
Part no. 0,75 / 20	2,65	7,2	65415	65416	65417	65418	65419	65420	65421	65422	65426	65423	65425		65427	65424		
Part no. 1 / 18	2,8	9,6	65428	65429	65430	65431	65432	65433	65434	65435	65439	65436	65438		65440	65437		

Barrel (with various capacity)

Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	PK	GN	TRANS	D-BU	OG	o.col.	2-col.
app. RAL			9005	-	5015	8003	3000	1013	7000	4005	1021	3015	6018	-	5010	2003	-	-
Part no. 1,5 / 16	3,05	14,4	65441	65442	65443	65444	65445	65446	65447	65448	65452	65449	65451		65453	65450		
Part no. 2,5 / 14	3,6	24,0	65454	65455	65456	65457	65458	65459	65460	65461	65465	65462	65464		65466	65463		
Part no. 4 / 12	4,1	38,0	65467	65468	65469	65470	65471	65472	65473	65474	65478	65475	65477		65549	65476		
Part no. 6 / 10	4,8	58,0	65550	65551	65552	65553	65554	65555	65556	65557	65558	65559	65560		65561	65562		

Two colour

Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	BU/WH	WH/BU	D-BU/WH	WH/OG	WH/RD	BK/OG	D-BU/OG	RD/WH	WH/D-BU	YE/BN	OG/BU					
app. RAL			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Part no. 0,5 / 22	2,5	5,2	63402	63403	63404	63405	63406	63482	63332	63352	63372	65386	69625					
Part no. 0,75 / 20	2,65	7,2	63407	63408	63409	63410	63411	63483	63333	63353	63373	65387	69626					
Part no. 1 / 18	2,8	9,6	63412	63413	63414	63415	63416	63484	63334	63354	63374	65388	69627					

Two colour

Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	WH/YE	OG/D-BU	YE/BU	BU/OG	OG/RD	OG/BK	OG/WH	YE/RD	BK/YE							
app. RAL			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Part no. 0,5 / 22	2,5	5,2	69827	69828	69829	69830	69831	69832	69833	69834	69835							
Part no. 0,75 / 20	2,65	7,2	69836	69837	69838	69839	69840	69841	69842	69843	69844							
Part no. 1 / 18	2,8	9,6	69845	69846	69847	69848	69849	69850	69851	69852	69853							

Continuation ▸

FIVENORM

HAR-UL-CSA-AWM-MTW, PVC single core, UL Style 10269 / UL Standard 1063, 600 V, 105°C

Two colour

Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	BU/WH	WH/BU	D-BU/WH	WH/OG	WH/RD	BK/OG	D-BU/OG	RD/WH	WH/D-BU	YE/BN	OG/BU
app. RAL			-	-	-	-	-	-	-	-	-	-	-
Part no. 1,5 / 16	3,05	14,4	63417	63418	63419	63420	63421	63485	63335	63355	63375	65389	69628
Part no. 2,5 / 14	3,6	24,0	63422	63423	63424	63425	63426	63486	63336	63356	63376	65390	69629
Part no. 4 / 12	4,1	38,0	63427	63428	63429	63430	63431	63487	63337	63357	63377	65391	69630
Part no. 6 / 10	4,8	58,0	63432	63433	63434	63435	63436	63488	63338	63358	63378	65392	69655
Part no. 10 / 8	6,4	96,0	63437	63438	63439	63440	63441	63489	63339	63359	63379	65393	69656
Part no. 16 / 6	8,1	154,0	63442	63443	63444	63445	63446	63490	63340	63360	63380	65394	69657
Part no. 25 / 4	9,6	240,0	63447	63448	63449	63450	63451	63491	63342	63362	63382	65395	69658
Part no. 35 / 2	10,8	336,0	63452	63453	63454	63455	63456	63492	63343	63363	63383	65396	69659
Part no. 50 / 1	13,6	480,0	63457	63458	63459	63460	63461	63493	63344	63364	63384	65397	69660
Part no. 70 / 2/0	15,2	627,0	63462	63463	63464	63465	63466	63494	63345	63365	63385	65398	69738
Part no. 95 / 3/0	16,8	912,0	63467	63468	63469	63470	63471	63495	63346	63366	63386	65499	69739
Part no. 120 / 4/0	19,5	1152,0	63472	63473	63474	63475	63476	63496	63347	63367	63387	65400	69740
Part no. 150 / 300 kcmil	22,2	1440,0	63477	63478	63479	63480	63481	63497	63348	63368	63388	65401	69741

Two colour

Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	WH/YE	OG/D-BU	YE/BU	BU/OG	OG/RD	OG/BK	OG/WH	YE/RD	BK/YE
app. RAL			-	-	-	-	-	-	-	-	-
Part no. 1,5 / 16	3,05	14,4	69854	69855	69856	69857	69858	69859	69860	69861	69862
Part no. 2,5 / 14	3,6	24,0	69863	69864	69865	69866	69867	69868	69869	69870	69871
Part no. 4 / 12	4,1	38,0	69872	69873	69874	69875	69876	69877	69878	69879	69880
Part no. 6 / 10	4,8	58,0	69881	69882	69883	69884	69885	69886	69887	69888	69889
Part no. 10 / 8	6,4	96,0	69890	69891	69892	69893	69894	69895	69896	69897	69898
Part no. 16 / 6	8,1	154,0	69899	69900	69901	69902	69903	69904	69905	69906	69907

Two colour, barrel (with various capacity)

Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	BU/WH	WH/BU	D-BU/WH	WH/OG	WH/RD	BK/OG	D-BU/OG	RD/WH	WH/D-BU	YE/BN	OG/BU
app. RAL			-	-	-	-	-	-	-	-	-	-	-
Part no. 0,5 / 22	2,5	5,2	65479	65480	65481	65482	65483	65484	65485	65486	65487	65488	65489
Part no. 0,75 / 20	2,65	7,2	65490	65491	65492	65493	65494	65495	65496	65497	65498	65502	65503
Part no. 1 / 18	2,8	9,6	65504	65505	65506	65507	65508	65509	65510	65511	65512	65514	65515

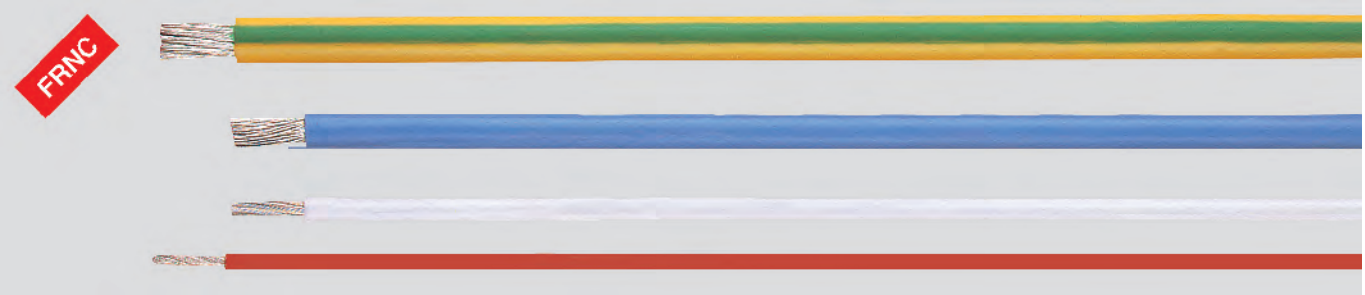
Two colour, barrel (with various capacity)

Cross-sec. mm² / AWG-no.	Outer Ø app. mm	Cop. weight kg / km	BU/WH	WH/BU	D-BU/WH	WH/OG	WH/RD	BK/OG	D-BU/OG	RD/WH	WH/D-BU	YE/BN	OG/BU
app. RAL			-	-	-	-	-	-	-	-	-	-	-
Part no. 1,5 / 16	3,05	14,4	65516	65517	65518	65519	65520	65521	65522	65523	65524	65525	65526
Part no. 2,5 / 14	3,6	24,0	65527	65528	65529	65530	65531	65532	65533	65534	65535	65536	65537
Part no. 4 / 12	4,1	38,0	65538	65539	65540	65541	65542	65543	65544	65545	65546	65547	65548

Dimensions and specifications may be changed without prior notice. (RN06)

HELUTHERM® 145

Single core, flexible, cross-linked, halogen-free



Technical data

- Halogen-free single core with increased heat resistance
- **Temperature range**
  flexing -35°C to +120°C
  fixed installation -55°C to +145°C
- **Nominal voltage**
  up to 1 mm² U_0/U 300/500 V
  from 1,5 mm² U_0/U 450/750 V
  at fixed and protected installation
  from 1,5 mm² U_0/U 600/1000 V
- **Test voltage**
  3500 V
- **Minimum bending radius**
  flexing 8x outer Ø
  fixed installation 4x outer Ø
- **Approval**
  DNV GL

Cable structure

- Tinned copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation: cross-linked polyolefin-copolymer
- Core identification: see table below

Properties

- No flame propagation
- Good abrasion and notch resistance
- Good resistance to weathering
- Resistant to UV radiation and ozone
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame test acc. to DIN VDE 0482-332-3-22 / DIN EN 60332-3-22 / IEC 60332-3-22
- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2
- Halogen-free acc. to DIN VDE 0482-754-1 / DIN EN 60754-1 / IEC 60754-1
- Corrosiveness of combustion gases acc. to DIN VDE 0482-754-2 / DIN EN 60754-2 / IEC 60754-2
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2
- Oil resistant acc. to IEC 60811-404, IRM902 Öl, 4 h at +70°C
- Fire protection on railway vehicles acc. to EN 45545-2

Application

These temperature resistant single core are used for the internal wiring of lighting fixtures, heaters, electrical machinery, switching systems and distributors in equipment and plant and machinery, suitable for laying in tubes on and under plaster, in closed installation ducts, as well as for traffic systems and outdoor applications. Not suitable for direct laying in cable ladders and cable trays, except as a potential equalisation cable.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	GN	D-BU	OG	BEIGE	2-col.
Part no. 0,25	1,6	2,4	4,0	50999	50998	51070	51071	51072	51073	51074	51075	51076	51078	51079	51077	51164	51165
Part no. 0,34	1,7	3,2	5,0	51167	51166	51168	51169	51170	51171	51172	51173	51174	51176	51177	51175	51178	51179
Part no. 0,5	1,9	4,8	7,0	51281	51280	51282	51283	51284	51285	51286	51287	51288	51290	51291	51289	51292	51293
Part no. 0,75	2,2	7,2	11,0	51295	51294	51296	51297	51298	51299	51300	51301	51302	51304	51305	51303	51306	51307
Part no. 1	2,5	9,6	14,0	51309	51308	51310	51311	51312	51313	51314	51315	51316	51318	51319	51317	51320	51321
Part no. 1,5	2,9	14,4	20,0	51323	51322	51324	51325	51326	51327	51328	51329	51330	51332	51333	51331	51334	51335
Part no. 2,5	3,5	24,0	30,0	51337	51336	51338	51339	51340	51341	51342	51343	51344	51346	51347	51345	51348	51349
Part no. 4	4,3	38,0	47,0	51351	51350	51352	51353	51354	51355	51356	51357	51358	51360	51361	51359	51362	51363
Part no. 6	5,0	58,0	72,0	51365	51364	51366	51367	51368	51369	51370	51371	51372	51374	51375	51373	51376	51377
Part no. 10	6,3	96,0	120,0	51379	51378	51380	51381	51382	51383	51384	51385	51386	51388	51389	51387	51390	51391

Continuation ▸

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HELUTHERM® 145

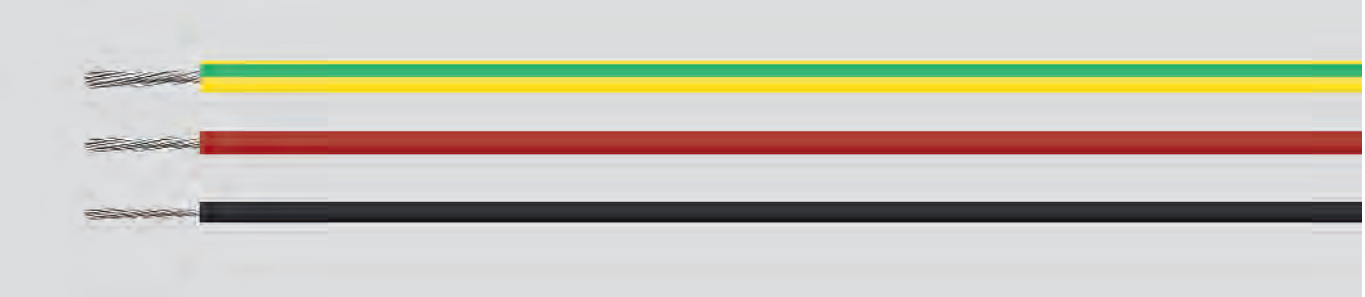
Single core, flexible, cross-linked, halogen-free

Cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	BK	GN-YE	BU	BN	RD	WH	GY	VT	YE	GN	D-BU	OG	BEIGE	2-col.
Part no. 16	7,3	154,0	182,0	51420	51419	51421	51422	51423	51424	51425	51426	51427	51429	51430	51428	51431	51432
Part no. 25	9,6	240,0	272,0	51434	51433	51435	51436	51437	51438	51439	51440	51441	51443	51444	51442	51445	51446
Part no. 35	10,8	336,0	371,0	51448	51447	51449	51450	51451	51452	51453	51454	51455	51457	51458	51456	51459	51460
Part no. 50	12,6	480,0	530,0	51462	51461	51463	51464	51465	51466	51467	51468	51469	51471	51472	51470	51473	51474
Part no. 70	14,6	672,0	730,0	51476	51475	51477	51478	51479	51480	51481	51482	51483	51485	51486	51484	51487	51488
Part no. 95	16,5	912,0	964,0	51490	51489	51491	51492	51493	51494	51495	51496	51497	51499	51500	51498	51501	51502
Part no. 120	18,0	1152,0	1235,0	51504	51503	51505	51506	51507	51508	51509	51510	51511	51513	51514	51512	51515	51516
Part no. 150	20,0	1440,0	1523,0	51518	51517	51519	51520	51521	51522	51523	51524	51525	51527	51528	51526	51529	51530
Part no. 185	22,2	1776,0	1850,0	51532	51531	51533	51534	51535	51536	51537	51538	51539	51541	51542	51540	51543	51544
Part no. 240	24,5	2304,0	2432,0	51546	51545	51547	51548	51549	51550	51551	51552	51553	51555	51556	51554	51557	51558

Dimensions and specifications may be changed without prior notice. (RK01)

SiF / SiFF

Silicone single core, halogen-free



Technical data

- Spezial-silicon single core with higher heat-resistance range adapted to DIN VDE 0250 Teil 1 and part 502
- **Temperatue range** -60°C to +180°C (up to +220°C for short time)
- **Temperature limit at the conductor** in operation +180°C
- **Nominal voltage** U_0/U 300/500 V
- **Test voltage** 2000 V
- **Breakdown voltage** min. 5000 V
- **Minimum bending radius** 6x core Ø
- **Radiation resistance** up to 20x10⁶ cJ/kg (up to 20 Mrad)

Cable structure

Type SiF

- Tinned copper-conductor,from 0,5 mm² to DIN VDE 0295 cl.5, fine-wire, BS 6360 cl.5, IEC 60228 cl.5
- Conductor construction 0,25 mm² = 14x0,15 mm
- Core insulation of silicone

Type SiFF

- Tinned Cu-conductor, to DIN VDE 0295 cl.6, extra fine-wire, BS 6360 cl.6, IEC 60228 cl.6 (single wire Ø 0,07 mm)
- Core insulation of silicone

Properties

- **Resistant to** high molecular oils, fats from vegetables and animals, alcohols, plasticizers and clophenes, diluted acids, lyes and salt dissolution, oxidation substances, tropical influences and weather, lake water, oxygen
- High flash points
- For laying as a fixed installation only in open or ventilated pipe systems as well as in ducts. Otherwise the mechanical properties of the silicon are reduced by the enclosed air at temperatures exceeding 90°C.

Tests

- Corrosiveness of combustion gases (Halogen-free) acc. to DIN VDE 0482 part 267, DIN EN 50267-2-2, IEC 60754-2 (equivalent DIN VDE 0472 part 813)
- Behaviour in fire no flame propagation acc. to DIN VDE 0482-332-1-2, DIN EN 60332-1-2,IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)

Note

- Please complete the part number for these cables by adding the suffix for the colour required as per the list:
  00 = green, 01 = black, 02 = red, 03 = blue, 04 = brown, 05 = white, 06 = grey, 07 = violet, 08 = yellow, 09 = orange, 10 = transparent, 11 = pink, 12 = beige, 13 = 2-colour
- AWG sizes are approximate equivalent values. The actual cross-section is in mm².

Application

Special single cores for use in high, resp. low temperature areas. They are used mainly in the steel producing industries, in aviation industries as well as in ship building, cement, glas and ceramic factories. As this single cores are halogen-free, especially suited for use in power stations.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

SiF

Part no.	Cross-section mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
232xx	0,25	1,9	2,4	5,5	24
233xx	0,5	2,1	4,8	8,6	20
234xx	0,75	2,4	7,2	11,8	18
235xx	1	2,5	9,6	13,5	17
236xx	1,5	2,8	14,4	18,5	16
237xx	2,5	3,4	24,0	30,0	14
238xx	4	4,2	38,0	47,3	12
239xx	6	5,0	58,0	71,1	10
246xx	10	6,6	96,0	119,4	8
247xx	16	7,4	154,0	187,7	6
248xx	25	9,2	240,0	289,6	4

SiF (wire colour black)

Part no.	Cross-section mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
451xx	0,25	1,9	2,4	6,0	24
452xx	0,5	2,2	4,8	10,0	20
453xx	0,75	2,5	7,2	13,0	18
454xx	1	2,6	9,6	15,0	17
455xx	1,5	3,1	14,4	19,0	16
456xx	2,5	3,7	24,0	32,0	14
457xx	4	4,4	38,0	50,0	12
458xx	6	5,2	58,0	73,0	10
459xx	10	6,8	96,0	125,0	8

SiFF

Part no.	Cross-section mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
23953	35	10,3	336,0	398,0	2
23954	50	11,8	480,0	560,0	1
23955	70	13,6	672,0	766,0	2/0
23956	95	15,6	912,0	1032,0	3/0
23957	120	17,6	1152,0	1285,0	4/0
23958	150	19,6	1440,0	1564,0	300 kcmil
23959	185	22,4	1776,0	1859,0	350 kcmil

Dimensions and specifications may be changed without prior notice. (RK01)

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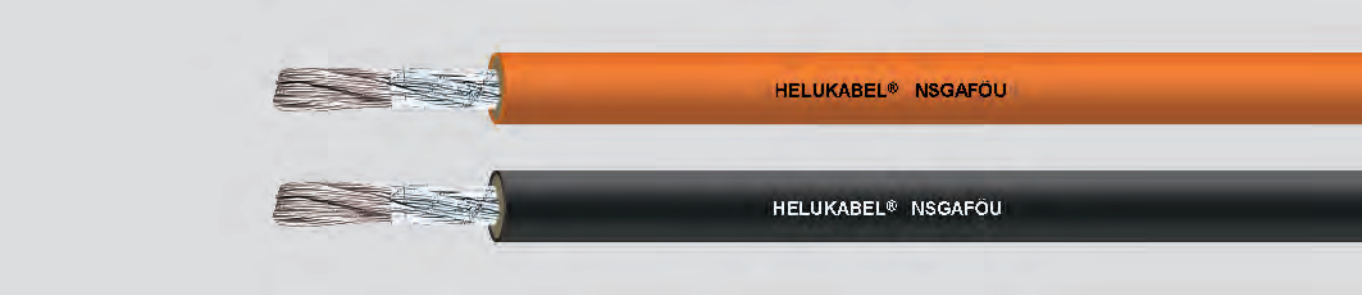
NSGAFÖU 3 kV

Special Rubber-Insulated Cable, short-circuit up to 1000 V



Technical data

- Special rubber-insulated single core cables acc. to DIN VDE 0250-602
- **Temperature range**
  flexing -25°C to +80°C
  fixed installation -40°C to +80°C
- Permissible conductor **operating temperature** +90°C
- **Nominal voltage**
  U_0/U 1,8/3 kV
- Max. permissible **operating voltage**
  - 3-Phase and single phase operation 2,1/3,6 kV
  - DC operation 2,7/5,4 kV
- **Test voltage**
  6 kV
- **Minimum bending radius**
  flexing 10x outer Ø
  fixed installation 6x outer Ø

Cable structure

- Tinned copper conductor, fine wire acc. to DIN VDE 0295 cl.5 / IEC 60228 cl.5
- EPR-insulation, compound type 3GI3 acc. to DIN VDE 0207-20
- Outer casing: Polychloroprene 5GM3 acc. to DIN VDE 0207-21
- Colour: black or orange

Properties

Tests

- Oil resistant acc. to DIN VDE 0473-811-404/DIN EN 60811-404
- Behaviour in fire acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

Note

- Considered as being short circuit safe and inherently earth-fault-proof are those operating materials and conducting assemblies where because of suitable measures and/or means applied, neither a short circuit nor a short to ground is to be expected under operating conditions which are in accordance with those specified for the intended application.
- Version in 6 kV available on request.
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.

Application

Particularly suitable for protection against short circuits in laying and for inherently earth-fault-proof routing in rail vehicles and omnibuses. Also suitable for laying in dry environments. For laying in tubes, closed installation ducts, device wiring, for connecting flexing parts, bundled. Not for usage on cable ladders and cable trays.

Colour: black

Part no.	No.cores x cross-sec. mm²	Outer Ø max. mm	Cop. weight kg / km	Weight app.kg / km	AWG-No.
38501	1 x 1,5	7,0	14,4	62,0	16
38502	1 x 2,5	7,5	24,0	76,0	14
38503	1 x 4	9,0	38,0	95,0	12
38504	1 x 6	9,5	58,0	140,0	10
38505	1 x 10	11,0	96,0	190,0	8
38506	1 x 16	13,0	154,0	270,0	6
38507	1 x 25	15,0	240,0	410,0	4
38508	1 x 35	16,5	336,0	490,0	2
38509	1 x 50	18,0	480,0	650,0	1
38510	1 x 70	20,5	672,0	900,0	2/0
38511	1 x 95	24,0	912,0	1200,0	3/0
38513	1 x 120	26,0	1152,0	1450,0	4/0
38514	1 x 150	28,0	1440,0	1800,0	300 kcmil
38512	1 x 185	31,0	1776,0	2200,0	350 kcmil
38515	1 x 240	34,5	2304,0	2650,0	500 kcmil
38516	1 x 300	38,0	2880,0	3250,0	600 kcmil

Colour: orange

Part no.	No.cores x cross-sec. mm²	Outer Ø max. mm	Cop. weight kg / km	Weight app.kg / km	AWG-No.
17001252	1 x 1,5	7,0	14,4	62,0	16
710665	1 x 2,5	7,5	24,0	76,0	14
710666	1 x 4	9,0	38,0	95,0	12
710223	1 x 6	9,5	58,0	140,0	10
17000914	1 x 10	11,0	96,0	190,0	8
17000915	1 x 16	13,0	154,0	270,0	6
17000916	1 x 25	15,0	240,0	410,0	4
17000917	1 x 35	16,5	336,0	490,0	2
17000918	1 x 50	18,0	480,0	650,0	1
17000919	1 x 70	20,5	672,0	900,0	2/0
17000920	1 x 95	24,0	912,0	1200,0	3/0
17000921	1 x 120	26,0	1152,0	1450,0	4/0
17000922	1 x 150	28,0	1440,0	1800,0	300 kcmil
17000923	1 x 185	31,0	1776,0	2200,0	350 kcmil
17000924	1 x 240	34,5	2304,0	2650,0	500 kcmil
17001253	1 x 300	38,0	2880,0	3250,0	600 kcmil

Dimensions and specifications may be changed without prior notice. (RK01)

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SOLARFLEX®-X H1Z2Z2-K

1500 V DC, EN 50618

Technical data

- **Temperature range**
  -40°C to +90°C
  max. temperature at conductor +120°C
- **Nominal voltage**
  AC 1,0/1,0 kV
  DC 1,5/1,5 kV
- **Maximum permissible DC voltage**
  1.8 kV
- **Test voltage**
  AC 6,5 kV
- **Minimum bending radius**
  fixed installation 5x cable Ø

Cable structure

- Tinned copper conductor, to DIN VDE 0295 cl.5, fine wire, IEC 60228 cl.5
- 1. Core insulation of special cross-linked compound
  2. Core insulation of special cross-linked compound
- Sheath colour: see table below

Properties

- Double-insulated
- complies protection class II
- UV-resistant
- Ozone resistant

Tests

- Halogen-free acc. to EN 50267, IEC 60754
- Flame retardant to IEC 60332-1-2
- Smoke density to IEC 61034
- Weathering/UV-resistance acc. to EN 50289-4-17 Method A
- Ozon resistance acc. to EN 50396 Clause 8.1.3 Methode B

Approvals

- EN 50618
  TÜV R60115689

Application

The SOLARFLEX®-X is used for cabling solar modules.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

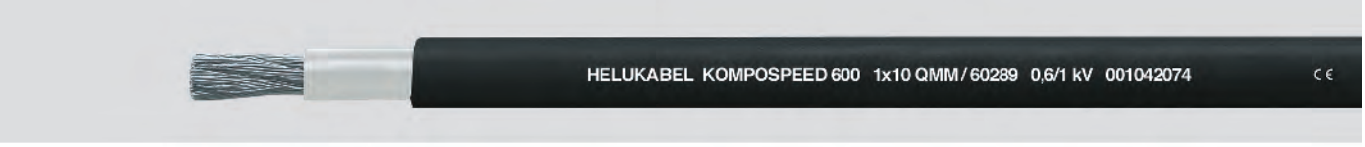
Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
713529	1 x 2,5	5,0	24,0	41,0	14
713544	1 x 2,5	5,0	24,0	41,0	14
713543	1 x 2,5	5,0	24,0	41,0	14
713530	1 x 4	5,4	38,4	55,0	12
713546	1 x 4	5,4	38,4	55,0	12
713545	1 x 4	5,4	38,4	55,0	12

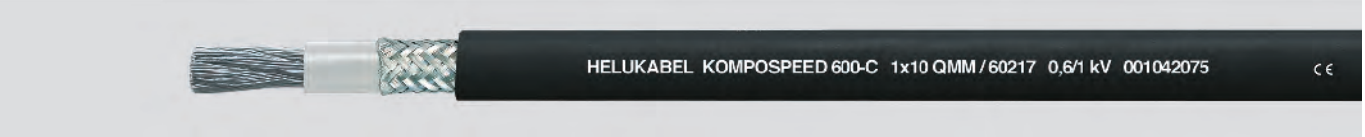
Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
713531	1 x 6	6,2	57,6	82,0	10
713570	1 x 6	6,2	57,6	82,0	10
713569	1 x 6	6,2	57,6	82,0	10
713532	1 x 10	7,4	96,0	123,0	8
713572	1 x 10	7,4	96,0	123,0	8
713571	1 x 10	7,4	96,0	123,0	8

Dimensions and specifications may be changed without prior notice.

KOMPOSPEED® 600 / 600-C

0,6/1 kV halogen-free, special single cores for drag chains, EMC-preferred type





Technical data

- Special drag chain single cores for high mechanical stress, adapted to DIN VDE 0285-525-2-31 / DIN EN 50525-2-31
- **Temperature range**
  flexing -30°C to +90°C
  fixed installation -40°C to +100°C
- Permissible **operating temperature** at conductor +90°C
- **Nominal voltage** U_0/U 600/1000 V
- **Test voltage** 3000 V
- **Insulation resistance** min. 20 MOhm x km
- **Minimum bending radius**
  KOMPOSPEED® 600
  flexing installation 5x outer Ø
  fixed installation 3x outer Ø
  KOMPOSPEED® 600-C
  flexing installation 7,5x outer Ø
  fixed installation 4x outer Ø

Cable structure

KOMPOSPEED® 600

- Tinned copper, extra fine wire conductors, bunch stranded to DIN VDE 0295 cl.6, col. 4, BS 6360 cl.6 and IEC 60228 cl.6
- Core insulation of special thermoplastic polymer, natural coloured
- Outer sheath of special polyolefin
- Sheath colour: black (RAL 9005)
- With meter marking

KOMPOSPEED® 600-C

- Structure as above up to core insulation
- Screen of tinned cu-braid, coverage approx. 85%
- Outer sheath of special polyolefin
- Sheath colour: black (RAL 9005)
- With meter marking

Properties

- Very good oil resistant
- Halogen free
- Abrasion resistant
- **Resistant to**
  Coolants
  Microbes
  UV-radiation
  Weather
  Hydrofluoric acid
  Hydrochloric acid
  Diluted sulfuric acid
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Note

- AWG sizes are approximate equivalent values. The actual cross section is in mm².

Application

The special single cores are used for permanent flexible applications in machineries, machine tools, composting appliances and sewage-treatment plants, animal stalls and greenhouses and used for permanent flexible application for movable automated machinery parts and multi-shift operation as well as in open air. These cables are installed for flexible use with free movements without tensile stress or forced movements and suitable for application in drag chains. The selected tinned copper wire conductor and tinned copper wire braid permit the installation in aggressive environments as well as hydrogen sulfide, ammonia and sulfur dioxide.
For applications which go beyond standard solutions (for example for composting appliances or high shelf conveyors with extremely high processing speeds etc.) we recommend for our especially developed enquiry sheet for energy guiding systems. Before installation in cable trays please read the instructions. Further technical details see selection table for drag chain cables, see chapter "Technical Infromation".

KOMPOSPEED® 600-C

These screened cables are particularly suitable for the interference-free trans mission in instrumentation and control engineering applications (electromagnetic compatibility).
EMC = Electromagnetic compatibility
To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

KOMPOSPEED® 600

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
60288	1 x 6	6,5	58,0	83,0	10
60289	1 x 10	8,4	96,0	132,0	8
60290	1 x 16	9,5	154,0	188,0	6
60291	1 x 25	11,2	240,0	281,0	4
60292	1 x 35	13,0	336,0	404,0	2
60293	1 x 50	15,4	480,0	531,0	1
60294	1 x 70	17,2	672,0	729,0	2/0
60295	1 x 95	20,0	912,0	1049,0	3/0
60296	1 x 120	21,0	1152,0	1220,0	4/0
60297	1 x 150	23,8	1440,0	1510,0	300 kcmil
60298	1 x 185	26,2	1776,0	1932,0	350 kcmil

KOMPOSPEED® 600-C

Part no.	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
60216	1 x 6	7,3	71,0	101,0	10
60217	1 x 10	9,1	122,0	168,0	8
60218	1 x 16	10,1	180,0	217,0	6
60219	1 x 25	12,2	282,0	342,0	4
60220	1 x 35	14,2	386,0	468,0	2
60221	1 x 50	17,0	535,0	584,0	1
60222	1 x 70	19,2	750,0	822,0	2/0
60223	1 x 95	21,8	1004,0	1190,0	3/0
60224	1 x 120	23,8	1260,0	1400,0	4/0
60225	1 x 150	26,0	1570,0	1710,0	300 kcmil
60226	1 x 185	28,8	1911,0	2021,0	350 kcmil
62500	1 x 240	34,0	2470,0	2850,0	500 kcmil

Dimensions and specifications may be changed without prior notice. (RK01)

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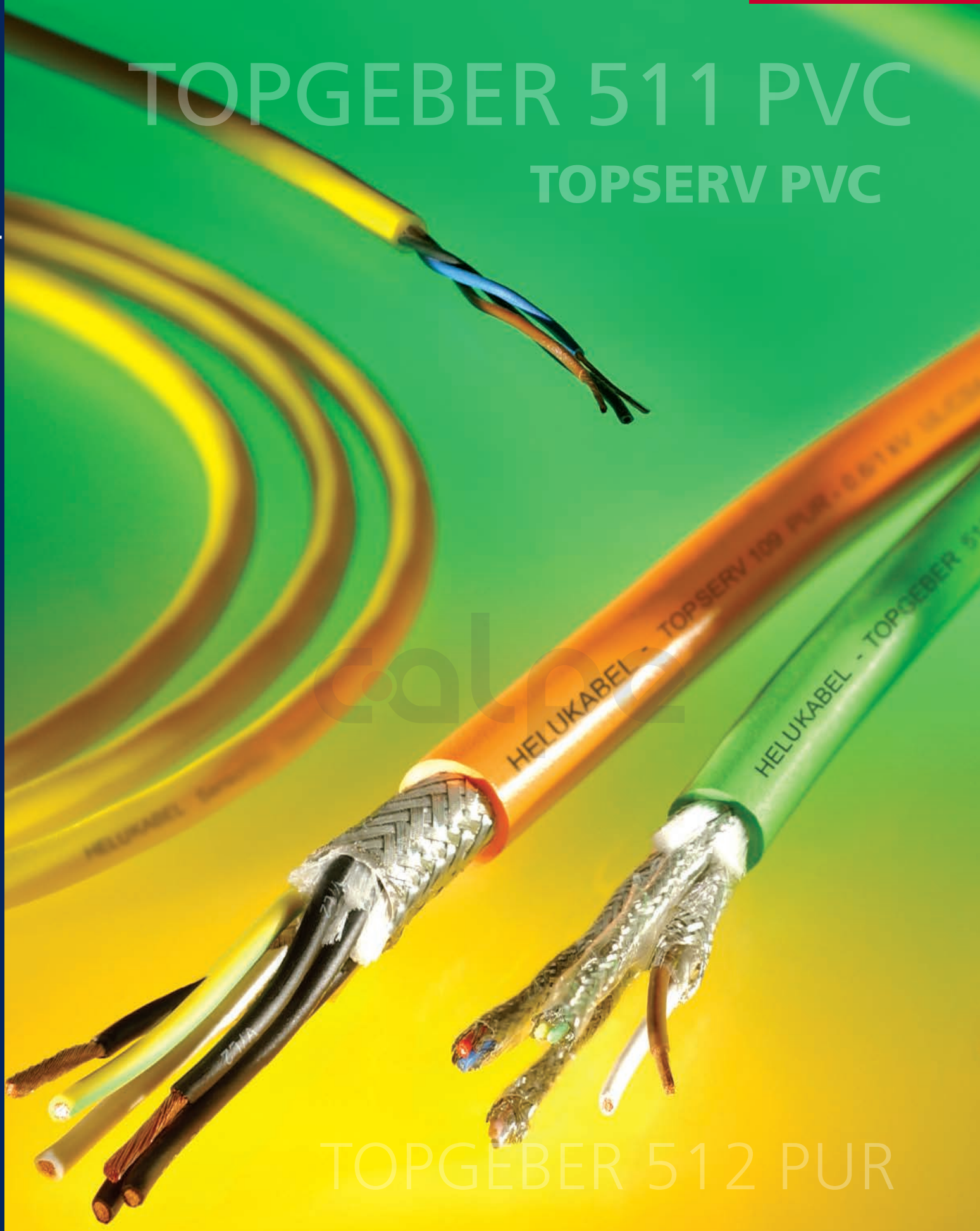
TOPGEBER 511 PVC

TOPSERV PVC



TOPGEBER 512 PUR

TOPSERV PUR

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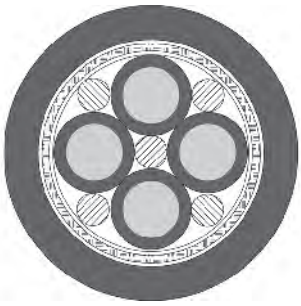
SERVO AND FEEDBACK CABLES

TOPSERV® PVC

Motor and servo cables for fixed or not constantly movements 0,6/1 kV, acc. to Siemens 6FX5008, Lenze, Bosch Rexroth



Technical data

- Special PVC Motorcable acc. to UL AWM Style 2570 CSA AWM VDE-recognized
- **Temperature range**
  flexing -0°C to +60°C
  fixed installation -20°C to +80°C
- **Nominal voltage**
  VDE U_0/U 600/1000 V
  UL/CSA 1000 V
- **A.c. test voltage**, 50 Hz
  4000 V
- **Minimum bending radius**
  flexing 15x cable Ø
  fixed installation 5x cable Ø
  min. 100.000 cycles

Cable structure

- Bare copper conductor, acc. to DIN EN 60228
  class 5: fine wire
  class 6: extra fine wire
- Core insulation
  to 6 mm² of halogen-free PP
  from 10 mm² of PVC
- Core identification
  power supply cores
  core 1: black with imprint U/L1/C/L+
  core 2: black with imprint V/L2
  core 3: black with imprint W/L3/D/L-
  control cores
  TOPSERV® 108 PVC without control cores
  TOPSERV® 112 PVC with **1** control cores
  acc. to Siemens
  core 1: black with imprint BR1
  core 2: white with imprint BR2
  acc. to Lenze
  core 1: brown with imprint BR1
  core 2: white with imprint BR2
  TOPSERV® 119 PVC with **2** control cores
  pair 1: black with number no. 5+6
  pair 2: black with number no. 7+8
- GN-YE conductor
- Screening of the control cores in pairs wrapped with tinned copper braid
- Power supply cores laid up with optimal lay length and stabilising filler
- Fleece wrapping facilitates sliding
- Overall screening from tinned copper braid, optimal coverage approx. 85%
- Outer sheath of PVC
- Sheath colour: orange (RAL 2003)

Properties

- low capacitance until 6 mm² (included)
- oilresistant PVC outer sheath
- Optimum compliance with requirements for electromagnetic compatibility (EMC) by approx. 85% coverage from the braided screen
- These cables are produced to high quality specifications and conform to the DESINA®-standard
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- PVC sheath flame retardant acc. to DIN EN 60332-1-1 to -1-3 (VDE 0482-332-1-1 to -1-3)

Note

- For a corresponding encoder cables please check chapter **TOPGEBER 511 PVC**
- For highly flexible, drag chain capable servo cables please check cahpter **TOPSERV® PUR**
- Brackets ( ) indicate screen
- DESINA® explanation see introduction
- SIEMENS product designations 6FX 5008-plus are registered trademarks of Siemens AG and are to be used only for purposes of comparison
- Lenze product designations are registered trademarks of Lenze AG and are to be used only for purposes of comparison
- Bosch Rexroth product designations INK are registered trademarks of Bosch Rexroth AG and are to be used only for purposes of comparison

Application

The combination of supply cores with the control cores for the braking function and the thermal protection in these cables is ideal. Precision servomotors, as used today in many areas of highly-automated manufacturing processes, call for high-quality, reliable and long-lasting cables. These requirements are met to a high degree by these cables. The cables have an additional overall screen to ensure EMC compatibility, i.e. for protection against electromagnetic interference. Production is based on the specifications of established manufacturers of servo-drives and controls, as well as on various VDE, UL and CSA standards.
Applications include machine, plant and robot construction, automation, drive, control and production engineering.
Attractive for export-oriented mechanical and system engineering.
EMC = Electromagnetic compatibility
To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Continuation ▸

TOPSERV® PVC

Motor and servo cables for fixed or not constantly movements 0,6/1 kV, acc. to Siemens 6FX5008, Lenze, Bosch Rexroth

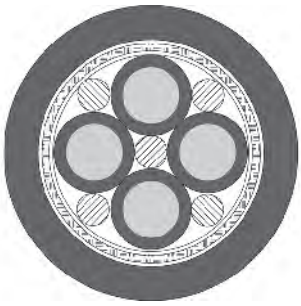
TOPSERV® 108 PVC, to Siemens 6FX5008

Part no.	No.cores x cross-sec. mm²	For system	OEM Part no.	Sheath colour	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
707250	(4 G 1,5)	Siemens	6FX5008-1BB11	Orange RAL 2003	8,0	78,0	118,0	16
707251	(4 G 2,5)	Siemens	6FX5008-1BB21	Orange RAL 2003	9,6	130,0	180,0	14
707252	(4 G 4)	Siemens	6FX5008-1BB31	Orange RAL 2003	11,0	198,0	264,0	12
707253	(4 G 6)	Siemens	6FX5008-1BB41	Orange RAL 2003	13,1	288,0	382,0	10
707254	(4 G 10)	Siemens	6FX5008-1BB51	Orange RAL 2003	19,3	463,0	764,0	8
707255	(4 G 16)	Siemens	6FX5008-1BB61	Orange RAL 2003	23,3	701,0	1218,0	6
707256	(4 G 25)	Siemens	6FX5008-1BB25	Orange RAL 2003	26,9	1068,0	1670,0	4
707257	(4 G 35)	Siemens	6FX5008-1BB35	Orange RAL 2003	30,3	1449,0	2139,0	2
707258	(4 G 50)	Siemens	6FX5008-1BB50	Orange RAL 2003	34,5	2096,0	2991,0	1

Dimensions and specifications may be changed without prior notice. (RN07)

TOPSERV® PUR

high flexible motor and servo cable for drag chain 0,6/1 kV, for example acc. to Siemens 6FX8008PLUS, Lenze, Bosch Rexroth



Technical data

- Special PUR drag chain cable acc. to UL AWM Style 21223 or 20234 CSA AWM VDE-recognized
- **Temperature range** flexing -30°C to +80°C fixed installation -40°C to +90°C
- **Nominal voltage** VDE U_0/U 600/1000 V UL/CSA 1000 V
- **A.c. test voltage**, 50 Hz 4000 V
- **Insulation resistance** min. 20 MOhm x km
- **Coupling resistance** max. 250 Ohm/km
- **Minimum bending radius** flexing 7,5x cable Ø fixed installation 4x cable Ø

Cable structure

- Bare copper conductor, to DIN VDE 0295 cl.6, extra fine wire, IEC 60228 cl.6
- Core insulation halogen-free PP
- Core identification
  power supply cores
  core 1: black with imprint U/L1/C/L+
  core 2: black with imprint V/L2
  core 3: black with imprint W/L3/D/L-
  control cores
  TOPSERV® 109 PUR without control cores
  TOPSERV® 113 PUR with **1** control cores
  acc. to Siemens
  core 1: black with imprint BR1
  core 2: white with imprint BR2
  acc. to Lenze
  core 1: brown with imprint BR1
  core 2: white with imprint BR2
  TOPSERV® 121 PUR with **2** control cores
  pair 1: black with number no. 5+6
  pair 2: black with number no. 7+8
- GN-YE conductor
- Screening of the control cores in pairs wrapped with tinned copper braid
- Power supply cores laid up with optimal lay length and stabilising filler
- Fleece wrapping facilitates sliding
- Overall screening from tinned copper braid, optimal coverage approx. 85%
- Outer sheath of PUR
- Sheath colour: orange (RAL 2003)

Properties

- Low adhesion, flame retardant, extremely abrasion resistant, halogen-free, resistant to UV, oil, hydrolysis and microbial attack PUR sheath
- Optimized insulation materials ensure resistance to oils (including mineral oils), greases, coolants, hydraulic fluids as well as many alkalis and solvents.
- Optimum compliance with requirements for electromagnetic compatibility (EMC) by approx. 85% coverage from the braided screen
- These cables are produced to high quality specifications and conform to the DESINA® standard.
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- Resistant to cleaning and disinfecting agents acc. to ECOLAB®

Tests

- PUR outer sheath self-extinguishing and flame retardant to DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)

Note

- For a corresponding encoder cables please check chapter **TOPGEBER 512 PUR**
- For servo cables with non or only slight drag chain application please check chapter **TOPSERV® PVC**
- Brackets ( ) indicate screen
- DESINA® explanation see introduction
- SIEMENS product designations 6FX 5008-plus are registered trademarks of Siemens AG and are to be used only for purposes of comparison
- Lenze product designations are registered trademarks of Lenze AG and are to be used only for purposes of comparison
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Application

The combination of supply cores with the control cores for the braking function and the thermal protection in these cables is ideal. Precision servomotors, as used today in many areas of highly-automated manufacturing processes, call for high-quality, reliable and long-lasting cables. These requirements are met to a high degree by these cables. The cables have an additional overall screen to ensure EMC compatibility, i. e. for protection against electromagnetic interference. Production is based on the specifications of established manufacturers of servo-drives and controls, as well as on various VDE, UL and CSA standards. Applications include machine, plant and robot construction, automation, drive, control and production engineering. Attractive for export-oriented mechanical and system engineering. Please observe applicable installation regulations for use in energy supply chains.
EMC = Electromagnetic compatibility
To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Continuation ▸

TOPSERV® PUR

high flexible motor and servo cable for drag chain 0,6/1 kV, for example acc. to Siemens 6FX8008PLUS, Lenze, Bosch Rexroth

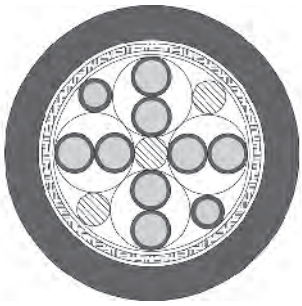
TOPSERV® 109 PUR, acc. to Siemens 6FX8008PLUS

Part no.	No.cores x cross-sec. mm²	For system	OEM Part no.	Sheath colour	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
75943	(4 G 1,5)	Siemens	6FX8008-1BB11	Orange RAL 2003	8,9	80,0	142,0	16
75944	(4 G 2,5)	Siemens	6FX8008-1BB21	Orange RAL 2003	10,7	120,0	206,0	14
75945	(4 G 4)	Siemens	6FX8008-1BB31	Orange RAL 2003	12,2	195,0	290,0	12
75946	(4 G 6)	Siemens	6FX8008-1BB41	Orange RAL 2003	14,5	296,0	423,0	10
75947	(4 G 10)	Siemens	6FX8008-1BB51	Orange RAL 2003	17,5	445,0	672,0	8
75948	(4 G 16)	Siemens	6FX8008-1BB61	Orange RAL 2003	21,6	730,0	1038,0	6
75949	(4 G 25)	Siemens	6FX8008-1BB25	Orange RAL 2003	25,2	1100,0	1495,0	4
75950	(4 G 35)	Siemens	6FX8008-1BB35	Orange RAL 2003	28,6	1510,0	1936,0	2
75951	(4 G 50)	Siemens	6FX8008-1BB50	Orange RAL 2003	33,4	2133,0	2774,0	1
700437	(4 G 70)	Siemens	6FX8008-1BB70	Orange RAL 2003	39,9	3029,0	3803,0	2/0
700897	(4 G 95)	Siemens	-	Orange RAL 2003	49,5	4606,0	5102,0	3/0

Dimensions and specifications may be changed without prior notice. (RN07)

TOPGEBER 511 PVC

Feedback cables with acc. to Siemens-, Lenze- or Bosch Rexroth Standard with PVC-sheath for fixed or not constantly movements



Technical data

- Special PVC feedback cable acc. to UL AWM style 20233 and CSA
- **Temperature range**
  flexing -0°C to +60°C
  fixed installation -20°C to +80°C
- **Nominal voltage**
  acc. to Siemens 30 V
  acc. to Bosch Rexroth and Lenze 300 V
- **A.c. test voltage**, 50 Hz
  core/core 1500 V
  core/screen 1000 V
- **Minimum bending radius**
  flexing 15x cable Ø
  fixed installation 6x cable Ø
  min. 100.000 cycles

Cable structure

- Copper-conductor bare or tinned to DIN VDE 0295 cl.6, extra fine wire, IEC 60228 cl.6
- Core insulation of special polypropylene
- Core colours on request
- Overall screening of tinned copper wire braid with tinned drain wire, coverage approx. 85%
- Polyester foil
- Outer sheath of PVC
- Sheath colour: green (RAL 6018) acc. to DESINA® or orange

Properties

- Outer sheath of PVC, oilresistant
- Optimum compliance with requirements for elect romagnetic compatibility (EMC) by approx. 85% coverage from the braided screen
- These cables are produced to high quality specifications and conform to the DESINA®-standard
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- PVC sheath flame retardant acc. to DIN EN 60332-1-1 bis -1-3 (VDE 0482-332-1-1 bis -1-3)

Note

- For a corresponding motor- and servocables please check chapter **TOPSERV® PVC**
- For drag chain capable encoder cables please check chapter **TOPGEBER 512 PUR**
- Brackets ( ) indicate screen.
- SIEMENS product designations 6FX 5008-... are registered trademarks of Siemens AG and are to be used only for purposes of comparison.
- INDRAMAT product designations INK- are registered trademarks of Bosch-Rexroth AG and are to be used only for purposes of comparison.
- LENZE product designations are registered trademarks of LENZE AG, and are to be used only for purposes of comparison.
- DESINA®: Explanation: see introduction.

Application

Low cost alternativ to Motorcables with PUR Sheath for fix instalation or occasional moving applications. These low-capacitance incremental encoder cables or position feedback cables transmit the control pulses for positioning and operating characteristics of servomotors. These cables are used as connecting cables for tachos, brakes and pulse generators in industrial equipment, machine tools, control and automation equipment.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

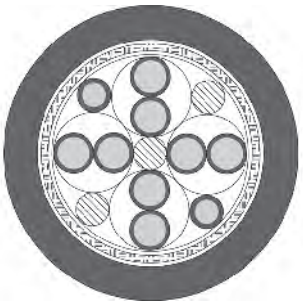
CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no.	No.cores x cross-sec. mm²	For system	OEM Part no.	Sheath colour	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
707417	(4 x 2 x 0,34 + 4 x 0,5)	Siemens	6FX 5008-1BD21	Green	8,9	70,3	117,8	-
707389	(3 x (2 x 0,14) + 4 x 0,14 + 2 x 0,5)	Siemens	6FX 5008-1BD41	Green	8,8	58,0	118,9	-
707390	(3 x (2 x 0,14) + 4 x 0,14 + 4 x 0,25 + 2 x 0,5)	Siemens	6FX 5008-1BD51	Green	9,6	70,7	137,7	-
713621	(2 x (2 x 0,22) + (2 x 0,34))	Siemens	6FX 5008-2DC00	Green	6,9	38,0	61,0	-
713620	(2 x 2 x 0,22)	Siemens	6FX 5008-1DC00	Green	6,9	35,0	71,0	-
705461	(4 x 2 x 0,25 + 2 x 0,5)	Bosch Rexroth	INK-0448	Orange	8,4	50,0	99,0	-
707392	(4 x 2 x 0,25 + 2 x 1,0)	Bosch Rexroth	INK-0209	Orange	8,8	64,0	119,0	-
707394	(4 x 2 x 0,14 + 4 x 1,0 + (4 x 0,14))	Bosch Rexroth	INK-0532	Orange	9,7	86,0	149,0	-
707077	3 x (2 x 0,14) + (2 x 0,5)	Lenze	-	Green	9,3	54,0	95,0	-
707397	4 x (2 x 0,14) + (2 x 1,0)	Lenze	-	Green	11,0	70,0	145,0	-
707398	3 x (2 x 0,14) + (3 x 0,14)	Lenze	-	Green	9,2	41,0	102,0	-

Dimensions and specifications may be changed without prior notice. (RN07)

TOPGEBER 512 PUR

high flexible Feedback cable for drag chain acc. to Siemens-, Bosch Rexroth, Lenze and other Standards



Technical data

- Special PUR drag chain feedback cable acc. to UL AWM style 20233 and 20236 and CSA
- **Temperature range**
  flexing -30°C to +80°C
  fixed installation -40°C to +80°C
- **Nominal voltage**
  acc. to Siemens 30 V
  acc. to Bosch Rexroth and Lenze 300 V
  further details on request
- **A.c. test voltage**, 50 Hz
  core/core 2000 V
  core/screen 1000 V
- **Mutual capacitance** at 800 Hz
  core/core approx. 70 pF/m
  core/screen approx. 110 pF/m
- **Insulation resistance**
  min. 20 MOhm x km
- **Coupling resistance**
  max. 250 Ohm
- **Minimum bending radius**
  flexing 10x cable Ø
  fixed installation 6x cable Ø

Cable structure

- Tinned copper conductor, to DIN VDE 0295 cl.6, extra fine wire, BS 6360 cl.6, IEC 60228 cl.6
- Core insulation of special polypropylene
- Core colours on demand
- Fleece wrapping facilitates sliding
- Overall screening of tinned copper wire braid with tinned drain wire, coverage approx. 85%
- Polyester foil
- Outer sheath of PUR
- Sheath colour: green (RAL 6018) acc. to DESINA® or orange

Properties

- PUR outer sheath, low adhesion, extremely abrasion resistant, halogen-free, resistant to UV-, oil-, hydrolysis and microbial attack
- Special feature: These cables are produced to high quality specifications and conform to the DESINA®-standard
- Due to the high grade special core insulation, the PUR sheath and the highly flexible conductor, these cables are ideally suitable for use in drag chains and provide high functional reliability
- Optimum compliance with requirements for electromagnetic compatibility (EMC) by approx. 85% coverage from the braided screen
- Particularly attractive for export-oriented markets due to UL/CSA approval
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers
- Resistant to cleaning and disinfecting agents acc. to ECOLAB®

Note

- For a corresponding motor- and servocables please check chapter **TOPSERV® PUR**
- Encoder cables for static application please check chapter **TOPGEBER 511 PVC**
- Brackets ( ) indicate screen.
- SIEMENS product designations 6FX 8008-... are registered trademarks of Siemens AG and are to be used only for purposes of comparison.
- Bosch Rexroth product designations INK- are registered trademarks of Bosch-Rexroth AG and are to be used only for purposes of comparison.
- DESINA®: Explanation: see introduction.

Application

These low-capacitance incremental encoder cables or position feedback cables transmit the control pulses for positioning and operating characteristics of servomotors. These cables are used as connecting cables for tachos, brakes and pulse generators in applications subjected to heavy mechanical stresses in industrial equipment, machine tools, control and automation equipment. Please observe applicable installation regulations for use in energy supply chains.

EMC = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Continuation ▸

TOPGEBER 512 PUR

high flexible Feedback cable for drag chain acc. to Siemens-, Bosch Rexroth, Lenze and other Standards

Part no.	No.cores x cross-sec. mm²	For system	OEM Part no.	Sheath colour	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
700655	(8 x 2 x 0,18)	Siemens	6FX 8008-1BD11	Green	7,8	54,0	79,0	24
78081	(4 x 2 x 0,34 + 4 x 0,5)	Siemens	6FX 8008-1BD21	Green	9,8	83,0	135,0	21
707400	(3 x (2 x 0,14) + 2 x 0,5)	Siemens	6FX 8008-1BD31	Green	9,0	74,0	119,0	21
700657	(3 x (2 x 0,14) + 4 x 0,14 + 2 x 0,5)	Siemens	6FX 8008-1BD41	Green	8,9	66,0	120,0	26
700540	(3 x (2 x 0,14) + 4 x 0,14 + 4 x 0,23 + 2 x 0,5)	Siemens	6FX 8008-1BD51	Green	9,6	75,0	138,0	-
700654	(4 x 2 x 0,18)	Siemens	6FX 8008-1BD61	Green	6,4	35,0	57,0	-
700653	(2 x 2 x 0,18)	Siemens	6FX 8008-1BD71	Green	5,0	24,0	42,0	-
78079	(12 x 0,22)	Siemens	6FX 8008-1BD81	Green	7,5	65,0	74,0	24
706333	(5 x 2 x 0,25 + 2 x 0,5)	Berger Lahr	-	Green	8,8	69,0	127,0	24
705413	(3 x 2 x 0,25 + 2 x 0,5)	Elau	-	Green	7,4	43,0	82,0	24
707403	(3 x 2 x 0,25)	B+R	-	Green	6,5	31,0	60,0	24
707404	(5 x 2 x 0,14 + 2 x 0,5)	B+R	-	Green	8,7	48,0	98,0	24
707405	3 x (2 x 0,14) + (2 x 0,5)	Lenze	-	Green	9,8	42,0	98,0	24
707406	4 x (2 x 0,14) + (2 x 1,0)	Lenze	-	Green	11,3	66,0	144,0	24
707407	3 x (2 x 0,14) + (3 x 0,14)	Lenze	-	Green	10,3	41,0	127,0	24
702050	(4 x 2 x 0,25 + 2 x 1,0)	Bosch Rexroth	INK-0209 grün	Green	8,8	64,0	99,0	24
78080	(4 x 2 x 0,25 + 2 x 0,5)	Bosch Rexroth	INK-0448 grün	Green	8,5	51,0	106,0	24
77741	(9 x 0,5)	Bosch Rexroth	INK-0208 grün	Green	8,8	69,0	124,0	20
707738	(4 x 2 x 0,25 + 2 x 1,0)	Bosch Rexroth	INK-0209	Orange	8,8	64,0	99,0	20
707739	(4 x 2 x 0,25 + 2 x 0,5)	Bosch Rexroth	INK-0448	Orange	8,5	51,0	106,0	20
707740	(9 x 0,5)	Bosch Rexroth	INK-0208	Orange	8,8	69,0	124,0	20
707408	(4 x 2 x 0,14 + 4 x 1,0 + (4 x 0,14))	Bosch Rexroth	INK-0532	Orange	9,7	81,0	142,0	20
707418	(3 x (2 x 0,25) + 3 x 0,25 + 2 x 1,0)	Bosch Rexroth	INK-0280	Orange	9,0	84,0	134,7	20
707409	(2 x 2 x 0,25 + 2 x 0,5)	Bosch Rexroth	INK-0750	Orange	7,2	38,0	79,0	20
77743	(3 x (2 x 0,14) + 2 x (1 x 0,5))	Heidenhain	-	Green	8,4	81,0	109,0	-
79513	(4 x 2 x 0,14 + 4 x 0,5)	Heidenhain	-	Green	8,5	52,0	100,0	26
707410	(3 x 2 x 0,14 + 2 x 1,0)	Heidenhain	-	Green	9,1	72,0	132,0	26
700560	(4 x 2 x 0,14 + (4 x 0,14) + 4 x 0,5)	Heidenhain	-	Green	8,3	67,0	104,0	-
77753	(10 x 0,14 + 2 x 0,5)	Heidenhain	-	Green	7,2	43,0	83,0	26
78963	(5 x 2 x 0,14 + 2 x 0,5)	Baumüller	-	Green	9,0	72,0	98,0	26
78828	(3 x 2 x 0,25)	-	-	Green	7,2	55,0	83,0	24
79613	(5 x 2 x 0,38 + 2 x 0,5)	-	-	Green	8,6	69,0	130,0	21
77744	(3 x (2 x 0,14) + 2 x 1,0)	-	-	Green	8,2	71,0	107,0	26
78372	(3 x 2 x 0,14 + 2 x 0,5)	-	-	Green	7,2	35,0	67,0	26
77750	(4 x (2 x 0,25) + 2 x 1,0)	-	-	Green	10,5	93,0	175,0	24
705221	(4 x 2 x 0,25)	-	-	Green	7,5	39,0	88,0	24

Dimensions and specifications may be changed without prior notice. (RN07)

NYY

(N)A2XH

NA2XY

JE-H(St)H

N2XCH-FE 180/E 30

N2XS(FL)2Y 6/10KV

NYFGY 3X

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POWER CABLES

NYY

Power cable, 0,6/1 kV, VDE approved

Technical data

- Power and control cable acc. to DIN VDE 0276-603 / HD 603 S1 / IEC 60502 7 core and above acc. to DIN VDE 0276-627 / HD 627 S1 / IEC 60502
- **Temperature range** flexing -5°C to +50°C fixed installation -40°C to +70°C
- Permissible **operating temperature** at conductor +70°C
- Permissible **short circuit temperature** (short circuit duration max. 5 s) ⩽ 300 mm² +160°C > 300 mm² +140°C
- **Nominal voltage** U_0/U 0,6/1 kV
- **Test voltage** 4 kV
- Max. permissible **tensile stress** with cable grip at conductor 50 N/mm²
- **Minimum bending radius** single-core 15x outer Ø multi-core 12x outer Ø
- **Caloric load values** see "Technical Information"

Cable structure

- Bare copper conductor, single wire or multi wire acc. to DIN VDE 0295 cl.1 or cl.2 / IEC 60228 cl.1 or cl.2
- Core insulation of PVC compound type DIV4 acc. to HD 603 S1
- Core identification acc. to DIN VDE 0293-308 / 0276-603
- Core colour for 3+½ conductor J-version: GN-YE (½), BN, BK, GY O-version: BU (½), BN, BK, GY
- Cores stranded in concentric layers
- Outer sheath of PVC compound type DMV5 to HD 603 S1
- Sheath colour: black

Properties

- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

Highest permissible voltage

- Direct current systems 1,8 kV
- Alternating current systems
  - Single-phase systems both outer conductors insulated 1,4 kV
  - Single-phase systems one outer conductor earthed 0,7 kV
- Three-phase systems 1,2 kV

Note

- re = round conductor, single-wire rm = round conductor, multi-wire sm = sectional conductor, mutli-wire
- J-version = with GN-YE conductor O-version = without GN-YE conductor
- In respect to 3+½ conductors Whereby only one conductor is allowed to contain a smaller cross section (as per DIN VDE 0276 part 603 table 5) and permitted to place as insulated core (gree-yellow and blue as ½-conductor), stranded in layer.
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.

Application

Power cables for energy supply are installed in open air, in underground, in water, in concrete, indoors, in cable ducts, power stations, for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

No.cores x cross-sec. mm²		Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	J type Part no.	AWG-No.		O type Part no.	AWG-No.	
1 x 4	re	8,1	38,0	115,0	32001	12	-	32089	12	-
1 x 6	re	8,6	58,0	135,0	32002	10	-	32090	10	-
1 x 10	re	10,0	96,0	179,0	32003	8	-	32091	8	-
1 x 16	re	11,0	154,0	245,0	32004	6	-	32092	6	-
1 x 25	rm	13,7	240,0	360,0	32005	4	-	32093	4	-
1 x 35	rm	14,5	336,0	470,0	32006	2	-	32094	2	-
1 x 50	rm	16,0	480,0	620,0	32007	1	-	32095	1	-
1 x 70	rm	17,5	672,0	810,0	32008	2/0	-	32096	2/0	-
1 x 95	rm	19,0	912,0	1110,0	32009	3/0	-	32097	3/0	-
1 x 120	rm	20,5	1152,0	1360,0	32010	4/0	-	32098	4/0	-
1 x 150	rm	22,5	1440,0	1670,0	32011	300 kcmil	-	32099	300 kcmil	-
1 x 185	rm	25,0	1776,0	2050,0	32012	350 kcmil	-	32100	350 kcmil	-
1 x 240	rm	28,0	2304,0	2630,0	32013	500 kcmil	-	32101	500 kcmil	-
1 x 300	rm	30,0	2880,0	3200,0	32014	600 kcmil	-	32102	600 kcmil	-
1 x 400	rm	34,0	3840,0	4150,0	32015	750 kcmil	-	32103	750 kcmil	-
1 x 500	rm	38,0	4800,0	5200,0	32556	1000 kcmil	-	32558	1000 kcmil	-
1 x 630	rm	43,0	6048,0	6650,0	32557	1250 kcmil	-	32559	1250 kcmil	-

Continuation ▸

NYY

Power cable, 0,6/1 kV, VDE approved

No.cores x cross-sec. mm²		Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	J type Part no.	AWG-No.		O type Part no.	AWG-No.	
2 x 1,5	re	11,0	29,0	175,0	32016	16	-	32104	16	-
2 x 2,5	re	12,0	48,0	215,0	32017	14	-	32105	14	-
2 x 4	re	14,0	77,0	295,0	32018	12	-	32106	12	-
2 x 6	re	15,0	115,0	370,0	32019	10	-	32107	10	-
2 x 10	re	16,5	192,0	495,0	32020	8	-	32108	8	-
2 x 16	re	18,5	307,0	670,0	32021	6	-	32109	6	-
2 x 25	rm	20,5	480,0	960,0	32022	4	-	32110	4	-
3 x 1,5	re	11,5	43,0	195,0	32023	16	-	32111	16	-
3 x 2,5	re	12,5	72,0	250,0	32024	14	-	32112	14	-
3 x 4	re	14,0	115,0	340,0	32025	12	-	32113	12	-
3 x 6	re	15,0	173,0	430,0	32026	10	-	32114	10	-
3 x 10	re	17,0	288,0	590,0	32027	8	-	32115	8	-
3 x 16	re	19,0	461,0	820,0	32028	6	-	32116	6	-
3 x 25	rm	24,0	720,0	1320,0	32029	4	-	32117	4	-
3 x 35	sm	25,0	1008,0	1450,0	32030	2	-	32118	2	-
3 x 50	sm	28,4	1440,0	1850,0	32031	1	-	32119	1	-
3 x 70	sm	30,0	2016,0	2450,0	32032	2/0	-	32120	2/0	-
3 x 95	sm	34,5	2736,0	3300,0	32033	3/0	-	32121	3/0	-
3 x 120	sm	37,0	3456,0	4100,0	32034	4/0	-	32122	4/0	-
3 x 150	sm	36,5	4320,0	4900,0	32293	300 kcmil	-	32296	300 kcmil	-
3 x 185	sm	41,5	5328,0	6500,0	32294	350 kcmil	-	32297	350 kcmil	-
3 x 240	sm	51,0	6912,0	8300,0	32295	500 kcmil	-	32298	500 kcmil	-
4 x 1,5	re	12,0	58,0	230,0	32044	16	-	32132	16	-
4 x 2,5	re	13,5	96,0	300,0	32045	14	-	32133	14	-
4 x 4	re	16,0	154,0	410,0	32046	12	-	32134	12	-
4 x 6	re	16,5	230,0	520,0	32047	10	-	32135	10	-
4 x 10	re	18,5	384,0	730,0	32048	8	-	32136	8	-
4 x 16	re	20,3	614,0	1045,0	32049	6	-	32137	6	-
4 x 25	rm	24,5	960,0	1640,0	32050	4	-	32138	4	-
4 x 35	sm	23,5	1344,0	1760,0	32051	2	-	32139	2	-
4 x 50	sm	27,0	1920,0	2350,0	32052	1	-	32140	1	-
4 x 70	sm	34,0	2688,0	3100,0	32053	2/0	-	32141	2/0	-
4 x 95	sm	35,5	3648,0	4250,0	32054	3/0	-	32142	3/0	-
4 x 120	sm	39,0	4608,0	5300,0	32055	4/0	-	32143	4/0	-
4 x 150	sm	42,5	5760,0	6400,0	32056	300 kcmil	-	32144	300 kcmil	-
4 x 185	sm	48,5	7104,0	8500,0	32057	350 kcmil	-	32145	350 kcmil	-
4 x 240	sm	53,5	9216,0	11000,0	32058	500 kcmil	-	32146	500 kcmil	-
5 x 1,5	re	13,0	72,0	270,0	32059	16	-	32147	16	-
5 x 2,5	re	14,5	120,0	360,0	32060	14	-	32148	14	-
5 x 4	re	16,5	192,0	490,0	32061	12	-	32149	12	-
5 x 6	re	19,5	288,0	600,0	32062	10	-	32150	10	-
5 x 10	re	20,0	480,0	890,0	32063	8	-	32151	8	-
5 x 16	re	22,5	768,0	1255,0	32064	6	-	32152	6	-
5 x 25	rm	28,0	1200,0	1960,0	32065	4	-			
5 x 35	rm	34,0	1680,0	2400,0	32300	2	-			
5 x 50	rm	35,3	2400,0	3500,0	32257	1	-			
5 x 70	rm	39,0	3360,0	4470,0	79608	2/0	-			
5 x 95	rm	47,0	4560,0	6149,0	700939	3/0	-			
7 x 1,5	re	14,5	101,0	310,0	32066	16	-	32153	16	-
7 x 2,5	re	15,5	168,0	450,0	32076	14	-	32163	10	-
7 x 4	re	18,5	269,0	640,0	32086	12	-	32173	12	-
7 x 6	re	20,0	403,0	850,0	32087	10	-	32174	10	-
7 x 10	re	23,5	672,0	1200,0	32088	8	-	32175	8	-
10 x 1,5	re	18,0	144,0	380,0	32067	16	-	32154	16	-
10 x 2,5	re	19,5	240,0	520,0	32077	14	-	32164	10	-
12 x 1,5	re	19,0	173,0	420,0	32068	16	-	32155	16	-
12 x 2,5	re	20,5	288,0	600,0	32078	14	-	32165	14	-
14 x 1,5	re	19,0	202,0	470,0	32069	16	-	32156	16	-
14 x 2,5	re	21,0	336,0	680,0	32079	14	-	32166	14	-
16 x 1,5	re	19,0	230,0	520,0	32070	16	-	32157	16	-
16 x 2,5	re	22,0	384,0	750,0	32080	14	-	32167	14	-
19 x 1,5	re	22,0	274,0	570,0	32071	16	-	32158	16	-
19 x 2,5	re	23,0	456,0	850,0	32081	14	-	32168	14	-
21 x 1,5	re	21,0	302,0	650,0	32072	16	-	32159	16	-
21 x 2,5	re	23,0	504,0	980,0	32082	14	-			
24 x 1,5	re	25,0	346,0	750,0	32073	16	-	32160	16	-
24 x 2,5	re	27,0	576,0	1100,0	32083	14	-	32170	14	-
30 x 1,5	re	26,0	432,0	860,0	32074	16	-	32161	16	-
30 x 2,5	re	28,0	720,0	1280,0	32084	14	-	32171	14	-
40 x 1,5	re	29,0	576,0	1070,0	32075	16	-	32162	16	-
40 x 2,5	re	31,5	960,0	1700,0	32085	14	-	32172	14	-
52 x 2,5	re	35,0	1248,0	2150,0	32169	14	-			
61 x 1,5	re	32,0	878,0	1680,0	32176	16	-			

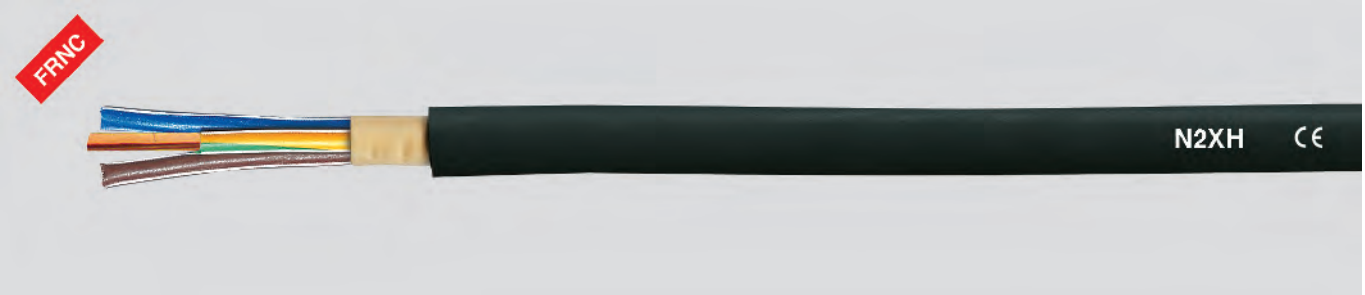
3+1/2 conductors

No.cores x cross-sec. mm²		Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	J type Part no.	AWG-No.		O type Part no.	AWG-No.	
3 x 25 / 16	rm/re	27,5	874,0	1530,0	32035	4	-	32123	4	-
3 x 35 / 16	sm/re	28,0	1162,0	1750,0	32036	2	-	32124	2	-
3 x 50 / 25	sm	31,5	1680,0	2350,0	32037	1	-	32125	1	-
3 x 70 / 35	sm/rm	35,0	2352,0	2850,0	32038	2/0	-	32126	2/0	-
3 x 95 / 50	sm	38,0	3216,0	3850,0	32039	3/0	-	32127	3/0	-
3 x 120 / 70	sm	41,0	4128,0	4780,0	32040	4/0	-	32128	4/0	-
3 x 150 / 70	sm	46,0	4992,0	5800,0	32041	300 kcmil	-	32129	300 kcmil	-
3 x 185 / 95	sm	51,0	6240,0	7600,0	32042	350 kcmil	-	32130	350 kcmil	-
3 x 240 / 120	sm	58,0	8064,0	9800,0	32043	500 kcmil	-	32131	500 kcmil	-
3 x 300 / 150	sm	56,5	10080,0	11500,0	32256	600 kcmil	-			

Dimensions and specifications may be changed without prior notice. (RQ01)

N2XH

Power cable, 0.6/1 kV, halogen-free, without functionality



Technical data

- Power and control cable acc. to DIN VDE 0276-604 / HD 604 S1-1+5G
- **Temperature range** during installation -5°C to +50°C fixed installation -30°C to +90°C
- Permissible conductor **operating temperature** +90°C
- **Nominal voltage** U_0/U 0,6/1 kV
- **Test voltage** 4 kV
- **Minimum bending radius** single-core 15x cable Ø multi-core 12x cable Ø
- **Caloric load values** see "Technical Information"

Cable structure

- Bare copper conductor, single wire or multi wire acc. to DIN VDE 0295 cl.1 or cl.2 / IEC 60228 cl.1 or cl.2
- Core insulation of cross-linked polyethylene (XLPE) compound type 2XI1 acc. to HD 604 S1
- Core identification acc. to DIN VDE 0293-308
- Core identification for 3+½ conductor J-type: GN-YE (½), BN, BK, GY O-type: BU (½), BN, BK, GY
- Cores stranded in layers (for multi-core cables)
- Overall filled inner sheath
- Covered by filling compound or taping
- Outer sheath of thermoplastic polyolefin, compound type HM4 acc. to HD 604 S1
- Sheath colour: black

Properties

- Halogen free, no separation of corrosive and toxic gases
- Limited propagation of fire
- Low smoke development
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Tests

- Flame test acc. to DIN VDE 0482-332-3-24 DIN EN 60332-3-24 / IEC 60332-3-24
- Corrosiveness of combustion gases acc. to DIN VDE 0482-267 / DIN EN 50267-2-2 / IEC 60754-2
- Halogen-free acc. to DIN VDE 0482-267 / DIN EN 50267-2-1 / IEC 60754-1
- Smoke density acc. to DIN VDE 0482-1034-1+2 / DIN EN 61034-1+2 / IEC 61034-1+2

Note

- re = round conductor, single-wire rm = round conductor, multi-wire sm = sectional conductor, mutli-wire
- J-version = with GN-YE conductor O-version = without GN-YE conductor
- The conductor is metrically constructed (mm²). The AWG designation is approximate and purely informative.
- **LS0H** = Low Smoke Zero Halogen

Application

Halogen-free power cables with enhanced characteristics in case of fire are used for applications where harm to human life and damage to property must be prevented in the event of fire, e. g. in power stations, industrial installations, communal establishments, hotels, airports, underground stations, railway stations, hospitals department stores, banks, schools theaters, multi-storey buildings, process control centres etc. Suitable for fixed installation in dry, damp or wet environments, in, above, on and beneath plaster as well as in masonary walls and in concrete. These cables are suitable for outdoor applications and in underground by using in conduits or tubes. For the installation in conduit all precautions must be taken that no accumulation of water can occur in the pipes.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

Part no. J type	O type	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
	53558	1 x 1,5 rm	6,0	14,4	41,0	16
	53559	1 x 2,5 rm	6,5	24,0	53,0	14
53100	53248	1 x 4 re	8,0	39,0	68,0	12
53101	53249	1 x 6 re	9,0	58,0	90,0	10
53102	53250	1 x 10 re	9,0	96,0	140,0	8
53103	53251	1 x 16 re	10,0	154,0	190,0	6
53104	53252	1 x 25 rm	11,0	240,0	290,0	4
53105	53253	1 x 35 rm	12,0	336,0	390,0	2
53106	53254	1 x 50 rm	15,0	480,0	510,0	1
53107	53255	1 x 70 rm	17,0	672,0	710,0	2/0
53108	53256	1 x 95 rm	19,0	912,0	960,0	3/0
53109	53257	1 x 120 rm	21,0	1152,0	1200,0	4/0
53110	53258	1 x 150 rm	23,0	1440,0	1480,0	300 kcmil
53111	53259	1 x 185 rm	25,0	1776,0	1910,0	350 kcmil
53112	53260	1 x 240 rm	28,0	2304,0	2370,0	500 kcmil
53113	53261	1 x 300 rm	30,0	2880,0	2970,0	600 kcmil
52485	52486	1 x 400 rm	32,9	3840,0	3957,0	750 kcmil

Part no. J type	O type	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
53114	53262	2 x 1,5 re	12,0	29,0	185,0	16
53115	53263	2 x 2,5 re	12,2	48,0	220,0	14
53116	53264	2 x 4 re	13,2	77,0	275,0	12
53117	53265	2 x 6 re	14,1	115,0	335,0	10
53118	53266	2 x 10 re	16,2	192,0	450,0	8
53119	53267	2 x 16 re	17,8	307,0	620,0	6
53120	53268	2 x 25 rm	21,0	480,0	930,0	4

Continuation ▸

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N2XH

Power cable, 0.6/1 kV, halogen-free, without functionality

Part no. J type	O type	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
53121	53269	3 x 1,5 re	13,0	43,0	220,0	16
53122	53270	3 x 2,5 re	14,0	72,0	280,0	14
53123	53271	3 x 4 re	15,0	115,0	350,0	12
53124	53272	3 x 6 re	16,0	173,0	420,0	10
53125	53273	3 x 10 re	18,0	288,0	600,0	8
53126	53274	3 x 16 re	20,0	461,0	770,0	6
53127	53275	3 x 25 rm	21,8	720,0	1120,0	4
53128	53276	3 x 35 sm	24,9	1008,0	1550,0	2
53129	53277	3 x 50 sm	25,2	1440,0	1750,0	1
53130	53278	3 x 70 sm	29,2	2016,0	2450,0	2/0
53131	53279	3 x 95 sm	32,0	2736,0	3250,0	3/0
53132	53280	3 x 120 sm	34,9	3456,0	4000,0	4/0
53133	53281	3 x 150 sm	39,2	4320,0	5000,0	300 kcmil
53134	53282	3 x 185 sm	44,1	5328,0	6150,0	350 kcmil
53135	53283	3 x 240 sm	49,2	6912,0	8000,0	500 kcmil
53143	53284	4 x 1,5 re	13,0	58,0	235,0	16
53144	53285	4 x 2,5 re	14,0	96,0	290,0	14
53145	53286	4 x 4 re	15,0	154,0	370,0	12
53146	53287	4 x 6 re	16,0	230,0	470,0	10
53147	53288	4 x 10 re	18,0	384,0	670,0	8
53148	53289	4 x 16 re	20,0	614,0	930,0	6
53149	53290	4 x 25 rm	25,0	960,0	1440,0	4
53150	53291	4 x 35 sm	27,0	1344,0	1890,0	2
53151	53292	4 x 50 sm	28,0	1920,0	2300,0	1
53152	53293	4 x 70 sm	32,0	2688,0	3200,0	2/0
53153	53294	4 x 95 sm	36,0	3648,0	4250,0	3/0
53154	53295	4 x 120 sm	40,2	4608,0	5350,0	4/0
53155	53296	4 x 150 sm	45,8	5760,0	6550,0	300 kcmil
53156	53297	4 x 185 sm	49,5	7104,0	8100,0	350 kcmil
53157	53298	4 x 240 sm	56,0	9216,0	10550,0	500 kcmil
53158	53299	5 x 1,5 re	14,5	72,0	280,0	16
53159	53309	5 x 2,5 re	16,0	120,0	350,0	14
53160	53310	5 x 4 re	17,0	192,0	450,0	12
53161	53311	5 x 6 re	18,5	288,0	600,0	10
53162	53312	5 x 10 re	21,0	480,0	850,0	8
53163	53313	5 x 16 re	24,0	768,0	1200,0	6
53557		5 x 25 rm	28,0	1200,0	1539,0	4
53164	53314	7 x 1,5 re	15,5	101,0	350,0	16
53171	53315	7 x 2,5 re	17,0	168,0	370,0	14
53178	53316	7 x 4 re	17,2	269,0	530,0	12
53165	53317	10 x 1,5 re	18,5	144,0	480,0	16
53172	53318	10 x 2,5 re	20,0	240,0	500,0	14
53166	53319	12 x 1,5 re	19,0	173,0	520,0	16
53173	53320	12 x 2,5 re	21,0	288,0	560,0	14
53179	53321	12 x 4 re	21,2	461,0	800,0	12
53167	53322	14 x 1,5 re	20,0	202,0	550,0	16
53174	53323	14 x 2,5 re	22,0	336,0	630,0	14
53168	53324	19 x 1,5 re	22,0	274,0	700,0	16
53175	53325	19 x 2,5 re	24,0	456,0	800,0	14
53169	53326	24 x 1,5 re	25,0	346,0	850,0	16
53176	53327	24 x 2,5 re	27,0	576,0	990,0	14
53170	53328	30 x 1,5 re	26,0	432,0	950,0	16
53177	53329	30 x 2,5 re	28,0	720,0	1180,0	14

Part no. J type	O type	No.cores x cross-sec. mm²	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
53136	53330	3 x 50 / 25 sm	28,5	1680,0	2100,0	1
53137	53331	3 x 70 / 35 sm	31,4	2352,0	2800,0	2/0
53138	53332	3 x 95 / 50 sm	34,9	3216,0	3750,0	3/0
53139	53333	3 x 120 / 70 sm	38,0	4128,0	4750,0	4/0
53140	53334	3 x 150 / 70 sm	43,3	4992,0	5750,0	300 kcmil
53141	53335	3 x 185 / 95 sm	47,2	6240,0	7200,0	350 kcmil
53142	53336	3 x 240 / 120 sm	53,4	8064,0	9300,0	500 kcmil

Dimensions and specifications may be changed without prior notice. (RQ02)

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CABLE GLANDS

HELUTOP® HT Cable gland

HELUTOP® HT
Plastic cable gland with vibration protection.

Application
- Plant and machine construction
- Robotics
- Automation technology
- Vehicle construction and shipbuilding
- Railway technology
- Installation technology
- Control cabinet construction

Material
Polyamide PA 6
Seal: Chloroprene-rubber (CR)

- phosphor-free
- silicone-free
- cadmium-free

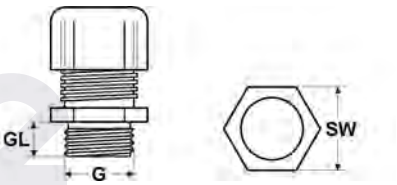
Properties
- Optimum strain relief through clamping lamella
- Easy to assemble
- Large clamping areas

Note
Details on the individual tests appear in section "Technical Information".

Technical data
Protection class: IP 68 - 5 bar / IP 69K

Temperature range: -20°C up to +100°C

Test standard: EN50262



Dimensions
G	Thread size
GL	Thread length
SW	Spanner size

Metric thread

Part no. light grey RAL 7035	Part no. dark grey RAL 7001	Part no. black RAL 9005	Size Metr.	Cable Ø from / to mm	Thread length mm	Spanner size mm	Unit	
93908	93923	93937	M12 x 1,5	3,0 - 6,5	8,0	15	100	-
93909	93924	93938	M16 x 1,5	4,0 - 8,0	8,0	19	50	-
907275	907276	907277	M16 x 1,5	5,0 - 10,0	8,0	19	50	-
92667	92668	92669	M16 x 1,5	5,0 - 10,0	10,0	22	50	-
93910	93925	93939	M20 x 1,5	6,0 - 12,0	10,0	24	50	-
93911	93926	93940	M25 x 1,5	11,0 - 17,0	8,0	29	50	-
93912	93927	93941	M32 x 1,5	15,0 - 21,0	10,0	36	25	-
93913	93928	93942	M40 x 1,5	19,0 - 28,0	10,0	46	20	-
93914	93929	93943	M50 x 1,5	30,0 - 38,0	18,0	60	10	-
93915	93930	93944	M63 x 1,5	34,0 - 44,0	18,0	65	10	-

Metric thread - with reducing seal

Part no. light grey RAL 7035	Part no. dark grey RAL 7001	Part no. black RAL 9005	Size Metr.	Cable Ø from / to mm	Thread length mm	Spanner size mm	Unit	
903532	903542	903552	M12 x 1,5	2,0 - 5,0	8,0	15	100	-
903533	903543	903553	M16 x 1,5	2,0 - 6,0	8,0	19	50	-
903534	903544	903554	M20 x 1,5	5,0 - 9,0	10,0	24	50	-
903535	903545	903555	M25 x 1,5	9,0 - 13,0	8,0	29	50	-
903536	903546	903556	M32 x 1,5	11,0 - 15,0	10,0	36	25	-
903537	903547	903557	M40 x 1,5	16,0 - 23,0	10,0	46	20	-
903538	903548	903558	M50 x 1,5	25,0 - 31,0	18,0	60	10	-
903539	903549	903559	M63 x 1,5	29,0 - 35,0	18,0	65	10	-

Continuation ▸

HELUTOP® HT Cable gland

PG thread

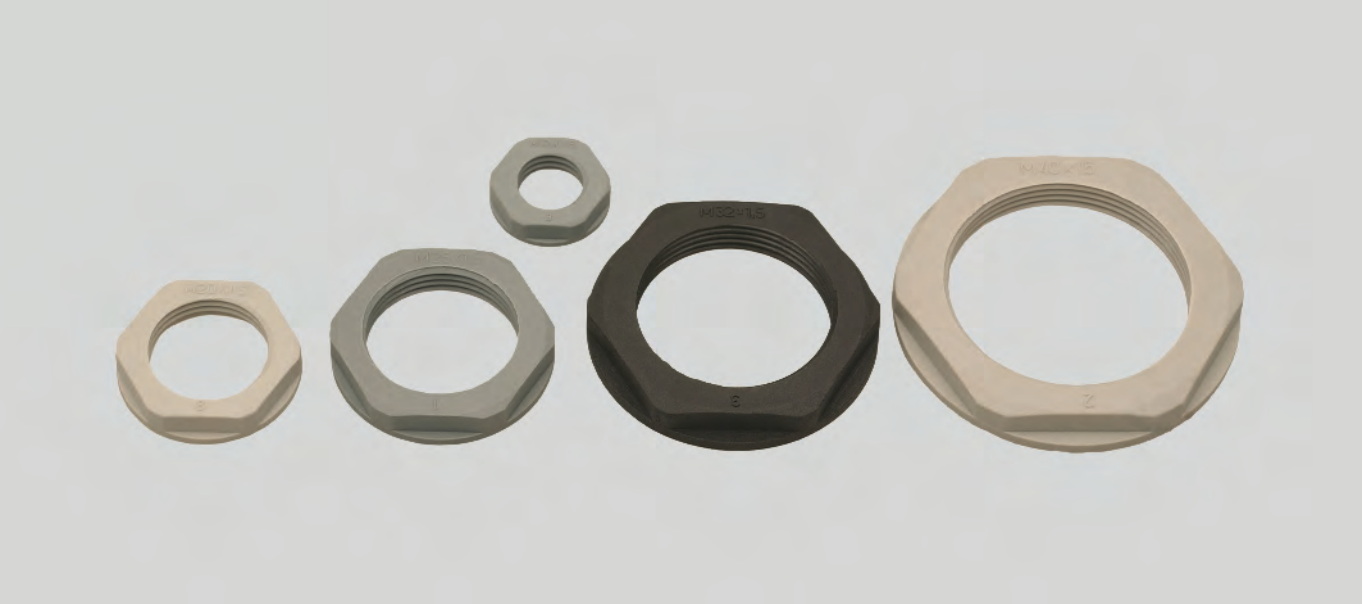
Part no. light grey RAL 7035	Part no. dark grey RAL 7001	Part no. black RAL 9005	Size PG	Cable Ø from / to mm	Thread length mm	Spanner size mm	Unit	
99300	99310	99320	7	3,0 - 6,5	8,0	15	100	-
99301	99311	99321	9	4,0 - 8,0	8,0	19	50	-
99302	99312	99322	11	5,0 - 10,0	8,0	22	50	-
99303	99313	99323	13,5	6,0 - 12,0	9,0	24	50	-
99304	99314	99324	16	10,0 - 14,0	10,0	27	50	-
99305	99315	99325	21	13,0 - 18,0	11,0	33	25	-
99306	99316	99326	29	18,0 - 25,0	11,0	42	20	-
99307	99317	99327	36	22,0 - 32,0	13,0	53	10	-
99308	99318	99328	42	30,0 - 38,0	13,0	60	10	-
99309	99319	99329	48	34,0 - 44,0	14,0	65	10	-

NPT thread

Part no. light grey RAL 7035	Part no. dark grey RAL 7001	Part no. black RAL 9005	Size NPT	Cable Ø from / to mm	Thread length mm	Spanner size mm	Unit	
92780	92790	92800	3/8"	5,0 - 10,0	15,0	22	50	-
92781	92791	92801	1/2"	6,0 - 12,0	15,0	24	50	-
92782	92792	92802	1/2"	10,0 - 14,0	15,0	27	50	-
92783	92793	92803	3/4"	13,0 - 18,0	15,0	33	25	-
92784	92794	92804	1"	18,0 - 25,0	18,0	42	20	-

Dimensions and specifications may be changed without prior notice.

KMK-PA-MB Counternut with collar



KMK-PA-MB

Counternut made of polyamide.
The counternut with collar has a bigger sealing area - sealing with an additional O-ring will be simplified.

Application

- Plant and machine construction
- Automation technology
- Vehicle construction and shipbuilding
- Installation technology
- Control cabinet construction

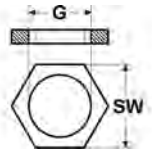
Material

Polyamide PA 6

- halogen-free
- phosphor-free
- silicone-free
- cadmium-free

Technical data

Temperature range: -40°C up to +100°C



Dimensions

G Thread size inside
SW Spanner size

Metric thread – female

Part no. light grey RAL 7035	Part no. dark grey RAL 7001	Part no. black RAL 9005	Size Metr.	Spanner size mm	Unit	
97816	94260	98163	M12 x 1,5	18	100	-
97817	94261	98164	M16 x 1,5	22	100	-
97818	94262	98165	M20 x 1,5	26	100	-
97819	94263	98166	M25 x 1,5	32	100	-
97820	94264	98167	M32 x 1,5	41	100	-
97821	94265	98168	M40 x 1,5	50	50	-
97822	94266	98169	M50 x 1,5	60	50	-
97823	94267	98170	M63 x 1,5	75	25	-

PG thread – female

Part no. light grey RAL 7035	Part no. dark grey RAL 7001	Part no. black RAL 9005	Size PG	Spanner size mm	Unit	
90710	94250	96458	7	19	100	-
90711	94251	96228	9	22	100	-
90712	94252	96459	11	24	100	-
90713	94253	96460	13,5	27	100	-
90714	94254	96461	16	30	100	-
90715	94255	96176	21	36	100	-
90716	94256	96177	29	46	50	-
90717	94257	96462	36	60	25	-
90718	94258	96463	42	65	25	-
90719	94259	96464	48	70	25	-

NPT thread – female

Part no. light grey RAL 7035	Part no. dark grey RAL 7001	Part no. black RAL 9005	Size NPT	Spanner size mm	Unit	
97317	90870	90875	3/8"	22	100	-
97316	90871	90876	1/2"	27	100	-
97315	90872	90877	3/4"	33	100	-
98366	90873	90878	1"	47	50	-

Dimensions and specifications may be changed without prior notice.

HELUTOP® HT-MS Cable gland

HELUTOP® HT-MS
Nickel-coated brass cable gland.

Application
- Plant and machine construction
- Robotics
- Automation technology
- Vehicle construction and shipbuilding
- Railway technology
- Installation technology
- Control cabinet construction

Material
Brass, nickel plated
Clamp: Polyamide PA 6
Seal: Chloroprene-rubber (CR)
O-ring: NBR

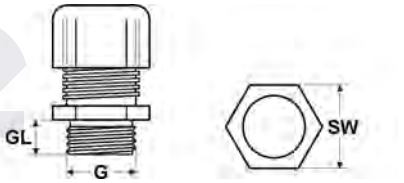
Properties
- Optimum strain relief due to clamping plates
- Easy to assemble
- Large clamping areas

Note
Details on the individual tests appear in section "Technical Information".

Technical data
Protection class: IP 68 - 5 bar / IP 69K

Temperature range: -20°C up to +100°C
Temperature range temporary: -40°C up to +150°C

Test standard: EN50262



Dimensions

G	Thread size
GL	Thread length
SW	Spanner size

Metric thread

Part no.	Size Metr.	Cable Ø from / to mm	Thread length mm	Spanner size mm	Unit	
90760	M12 x 1,5	3,0 - 6,5	6,0	14	50	-
99960	M16 x 1,5	5,0 - 10,0	7,0	20	50	-
90762	M20 x 1,5	6,0 - 12,0	8,0	22	50	-
99961	M25 x 1,5	11,0 - 17,0	8,0	27	25	-
94624	M32 x 1,5	15,0 - 21,0	9,0	34	20	-
99962	M40 x 1,5	19,0 - 28,0	9,0	43	5	-
99963	M50 x 1,5	27,0 - 38,0	10,0	58	5	-
90767	M63 x 1,5	34,0 - 44,0	10,0	64 / 68	5	-
906199	M63 x 1,5	44,0 - 55,0	10,0	75	5	-

Metric thread - with reducing seal

Part no.	Size Metr.	Cable Ø from / to mm	Thread length mm	Spanner size mm	Unit	
903560	M12 x 1,5	2,0 - 5,0	6,0	14	50	-
903561	M16 x 1,5	2,0 - 6,0	7,0	17 / 18	50	-
903562	M20 x 1,5	5,0 - 9,0	8,0	22	50	-
903563	M25 x 1,5	7,0 - 12,0	8,0	24 / 27	25	-
903564	M32 x 1,5	9,0 - 16,0	9,0	30 / 34	20	-
903565	M40 x 1,5	12,0 - 20,0	9,0	40 / 43	5	-
903566	M50 x 1,5	20,0 - 26,0	10,0	50 / 55	5	-
903567	M63 x 1,5	29,0 - 35,0	14,0	64 / 68	5	-

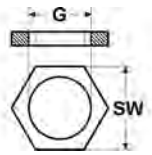
Dimensions and specifications may be changed without prior notice.

KM Counternut

KM
Counternut made of galvanic nickel-coated brass.

Material
Brass, nickel plated

Technical data
Temperature range: up to +200°C



Dimensions
G Thread size inside
SW Spanner size

Metric thread - female

Part no.	Size Metr.	Spanner size mm	Unit	
90175	M12 x 1,5	15,0	100	-
90176	M16 x 1,5	19,0	100	-
90177	M20 x 1,5	24,0	100	-
90178	M25 x 1,5	30,0	100	-
90179	M32 x 1,5	36,0	100	-
90180	M40 x 1,5	46,0	50	-
90181	M50 x 1,5	60,0	25	-
90182	M63 x 1,5	70,0	25	-

Metric thread - female - KM-XXL - for large cable diameters

Part no.	Size Metr.	Spanner size mm	Unit	
98314	M72 x 2,0	80,0	1	-
90067	M75 x 1,5	80,0	1	-
90489	M80 x 2,0	95,0	1	-

PG thread - female

Part no.	Size PG	Spanner size mm	Unit	
90610	7	15,0	100	-
90611	9	18,0	100	-
90612	11	21,0	100	-
90613	13,5	23,0	100	-
90614	16	26,0	100	-
90615	21	32,0	100	-
90616	29	41,0	100	-
90617	36	51,0	50	-
90618	42	60,0	50	-
90619	48	64,0	50	-

NPT thread - female

Part no.	Size Inches	Spanner size mm	Unit	
905870	1/2"	27,0	50	-
905871	3/4"	32,0	50	-
905872	1"	36,0	25	-
905873	1 1/4"	46,0	25	-
905874	1 1/2"	54,0	10	-
905875	2"	70,0	10	-

Continuation ▸

KM Counternut

BSP thread - female

Part no.	Size BSP	Spanner size mm	Unit	
90186	G 3/8"	19,0	100	-
90187	G 1/2"	24,0	100	-
90189	G 3/4"	30,0	100	-
90190	G 1"	38,0	100	-
90193	G 1 1/2"	51,0	50	-
90195	G 2"	66,0	50	-

BSP thread - female - KM-XXL - for large cable diameters

Part no.	Size BSP	Spanner size mm	Unit	
90197	G 2 1/2"	80,0	1	-
90198	G 3"	95,0	1	-
90199	G 4"	125,0	1	-
97785	G 5"	150,0	1	-

Dimensions and specifications may be changed without prior notice.

HELUTOP® MS-EP4 EMC cable gland

EMV

HELUTOP® MS-EP4

EMC- cable gland with integrated contact system.

Application

- Plant and machine construction
- Robotics
- Automation technology
- Vehicle construction and shipbuilding
- Railway technology
- Installation technology
- Control cabinet construction

Material

Brass, nickel plated
Contact system: Copper-Beryllium
Clamp: Polyamide PA 6
Seal: Chloroprene-rubber (CR)
O-ring: NBR

Properties

- Easy installation
- Secure contact
- High vibration resistance

Note

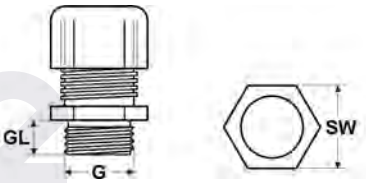
Details on the individual tests appear in section "Technical Information".

Technical data

Protection class: IP 68 - 5 bar

Temperature range: -40°C up to +100°C

Contact system: patented



Dimensions

G	Thread size
GL	Thread length
SW	Spanner size

Metric thread

Part no.	Size Metr.	Cable Ø from / to mm	Thread length mm	Spanner size mm	Unit	
905181	M12 x 1,5	3,0 - 6,5	6,0	14	50	-
905182	M16 x 1,5	5,0 - 10,0	6,0	20	50	-
905183	M20 x 1,5	6,0 - 12,0	6,0	22	50	-
905184	M20 x 1,5	7,5 - 14,0	8,0	24 / 26	50	-
905185	M25 x 1,5	10,0 - 18,0	8,0	30	25	-
905186	M32 x 1,5	16,0 - 25,0	9,0	40	10	-
905187	M40 x 1,5	22,0 - 32,0	9,0	50	5	-
905188	M50 x 1,5	30,0 - 38,0	9,0	58	5	-
905189	M63 x 1,5	34,0 - 44,0	14,0	64 / 68	5	-
905248	M63 x 1,5	37,0 - 53,0	10,0	75	5	-

Dimensions and specifications may be changed without prior notice.

KM-EMV EMC-counternut

KM-EMV

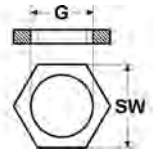
- Counternut with cutting edges for secure fixing of EMC cable glands
- For cutting through painted surfaces to ensure optimum contact with equipotential bonding
- Increased vibration resistance

Material

Brass, nickel plated

Technical data

Temperature range: up to +200°C



Dimensions

G Thread size inside
SW Spanner size

Metric thread - female

Part no.	Size Metr.	Spanner size mm	Unit	
90165	M12 x 1,5	15,0	100	-
90166	M16 x 1,5	19,0	100	-
90167	M20 x 1,5	24,0	100	-
90168	M25 x 1,5	30,0	100	-
90169	M32 x 1,5	36,0	100	-
90170	M40 x 1,5	46,0	50	-
90171	M50 x 1,5	60,0	50	-
90172	M63 x 1,5	70,0	25	-

Metric thread - female - KM-EMV-XXL - for large cable diameteres

Part no.	Size Metr.	Spanner size mm	Unit	
99875	M72 x 2,0	80,0	1	-
93209	M75 x 1,5	80,0	1	-
98698	M80 x 2,0	95,0	1	-

PG thread - female

Part no.	Size PG	Spanner size mm	Unit	
97243	7	15,0	100	-
97244	9	18,0	100	-
97166	11	21,0	100	-
97167	13,5	23,0	100	-
97168	16	26,0	100	-
97169	21	32,0	100	-
97170	29	41,0	50	-
97171	36	51,0	25	-
97245	42	60,0	25	-
97246	48	64,0	25	-

Dimensions and specifications may be changed without prior notice.

KVA-XXL-MS Cable gland

For particularly large cable diameters

KVA-XXL-MS

Cable gland made of brass for very large cable diameters.

Application

- Plant and machine construction
- Robotics
- Automation technology
- Vehicle construction and shipbuilding
- Installation technology
- Control cabinet construction

Material

Brass, nickel plated
Seal: TPE-V
O-ring: NBR

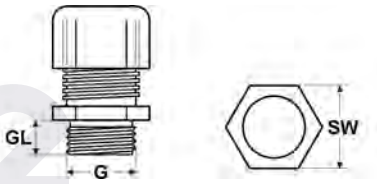
Properties

- Large-area cable sealing
- Easy to assemble
- Large clamping range

Technical data

Protection class: IP 68 - 10 bar

Temperature range: -40°C up to +135°C



Dimensions

G	Thread size
GL	Thread length
SW	Spanner size

Metric thread

Part no.	Size Metr.	Cable Ø from / to mm	Thread length mm	Spanner size mm	Unit	
905957	M63 x 1,5	42,0 - 48,0	10,0	70	1	-
93569	M63 x 1,5	45,0 - 51,0	10,0	70	1	-
92779	M72 x 2,0	46,0 - 52,0	15,0	80	1	-
93727	M72 x 2,0	51,0 - 55,0	15,0	80	1	-
905958	M75 x 1,5	51,0 - 55,0	15,0	80	1	-
905959	M75 x 1,5	54,0 - 58,0	15,0	80	1	-
93105	M80 x 2,0	58,0 - 64,0	15,0	95	1	-
905960	M80 x 2,0	63,0 - 70,0	15,0	95	1	-
905961	M90 x 2,0	69,0 - 75,0	20,0	110	1	-
905962	M90 x 2,0	74,0 - 80,0	20,0	110	1	-
905963	M100 x 2,0	79,0 - 85,0	20,0	110	1	-
905964	M105 x 2,0	84,0 - 90,0	20,0	120	1	-
905965	M110 x 2,0	89,0 - 95,0	20,0	120	1	-
905966	M115 x 2,0	89,0 - 95,0	20,0	120	1	-

Dimensions and specifications may be changed without prior notice.

KVA-XXL-MS-E EMC cable gland

For particularly large diameters

EMV

KVA-XXL-MS-E

EMC and sealing cable gland made of brass for particularly large cable diameters.

Application

- Plant and machine construction
- Robotics
- Automation technology
- Vehicle construction and shipbuilding
- Installation technology
- Control cabinet construction

Material

Brass, nickel plated
Contact system: stainless steel 1.4310

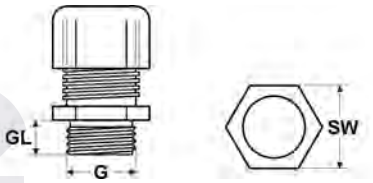
Properties

- Large-area cable sealing
- Easy to assemble
- Large clamping range

Technical data

Protection class: IP 68 - 10 bar

Temperature range: -40°C up to +135°C



Dimensions

G	Thread size
GL	Thread length
SW	Spanner size

Metric thread

Part no.	Size Metr.	Cable Ø from / to mm	Outer Ø Shielding from / up to mm	Thread length mm	Spanner size mm	Unit	
98257	M63 x 1,5	40,0 - 45,0	36,0 - 41,0	10,0	65	1	-
96560	M63 x 1,5	45,0 - 51,0	36,0 - 45,0	10,0	70	1	-
94218	M63 x 1,5	45,0 - 51,0	40,0 - 48,0	10,0	70	1	-
98725	M63 x 1,5	51,0 - 55,0	40,0 - 48,0	10,0	80	1	-
94189	M72 x 2,0	40,0 - 45,0	36,0 - 41,0	15,0	70	1	-
94847	M72 x 2,0	45,0 - 51,0	40,0 - 48,0	15,0	70	1	-
905498	M72 x 2,0	51,0 - 55,0	40,0 - 48,5	15,0	80	1	-
94208	M72 x 2,0	51,0 - 55,0	46,0 - 54,0	15,0	80	1	-
94188	M72 x 2,0	54,0 - 58,0	40,0 - 48,0	15,0	80	1	-
93728	M75 x 1,5	42,0 - 48,0	40,0 - 48,0	15,0	70	1	-
91600	M75 x 1,5	45,0 - 51,0	40,0 - 48,0	15,0	70	1	-
90068	M75 x 1,5	54,0 - 58,0	46,0 - 54,0	15,0	80	1	-
97066	M80 x 2,0	58,0 - 64,0	46,0 - 54,0	15,0	95	1	-
98908	M80 x 2,0	63,0 - 70,0	46,0 - 54,0	15,0	95	1	-
905303	M80 x 2,0	63,0 - 70,0	46,0 - 58,0	15,0	95	1	-

Dimensions and specifications may be changed without prior notice.

HELUTOP® Easy Threadless cable gland

HELUTOP® Easy

Threadless cable gland for easy and quick installation with patented spring/snap system without tools.

Advantages:

- No tools required for installation
- No threaded holes required
- No locknuts required
- Same clamping range as HELUTOP® HT-Series
- VDE-according to DIN EN 62444
- Gland and cable will be fixed with clockwise thread
- Installation in tight areas and no-access spaces (locknut side)
- Cable gland fits as tightly as traditional gland held in place with threaded hole or locknut
- Hexagon of body and cap are same SW
- Large wall thickness range: 0,5 – 4,0 mm
- Quick and easy disassembly with separate tool. No damage to cable gland or wall

Material

PA 6, V2 acc. to UL 94
Seal: Chloroprene-rubber (CR)

Note

Additional colors on request: red RAL 3020, white RAL 9003, blau RAL 5015.
Dimensions borehole Ø = +/- 0.1

Technical data

Protection class: IP66 / IP68 - 5 bar

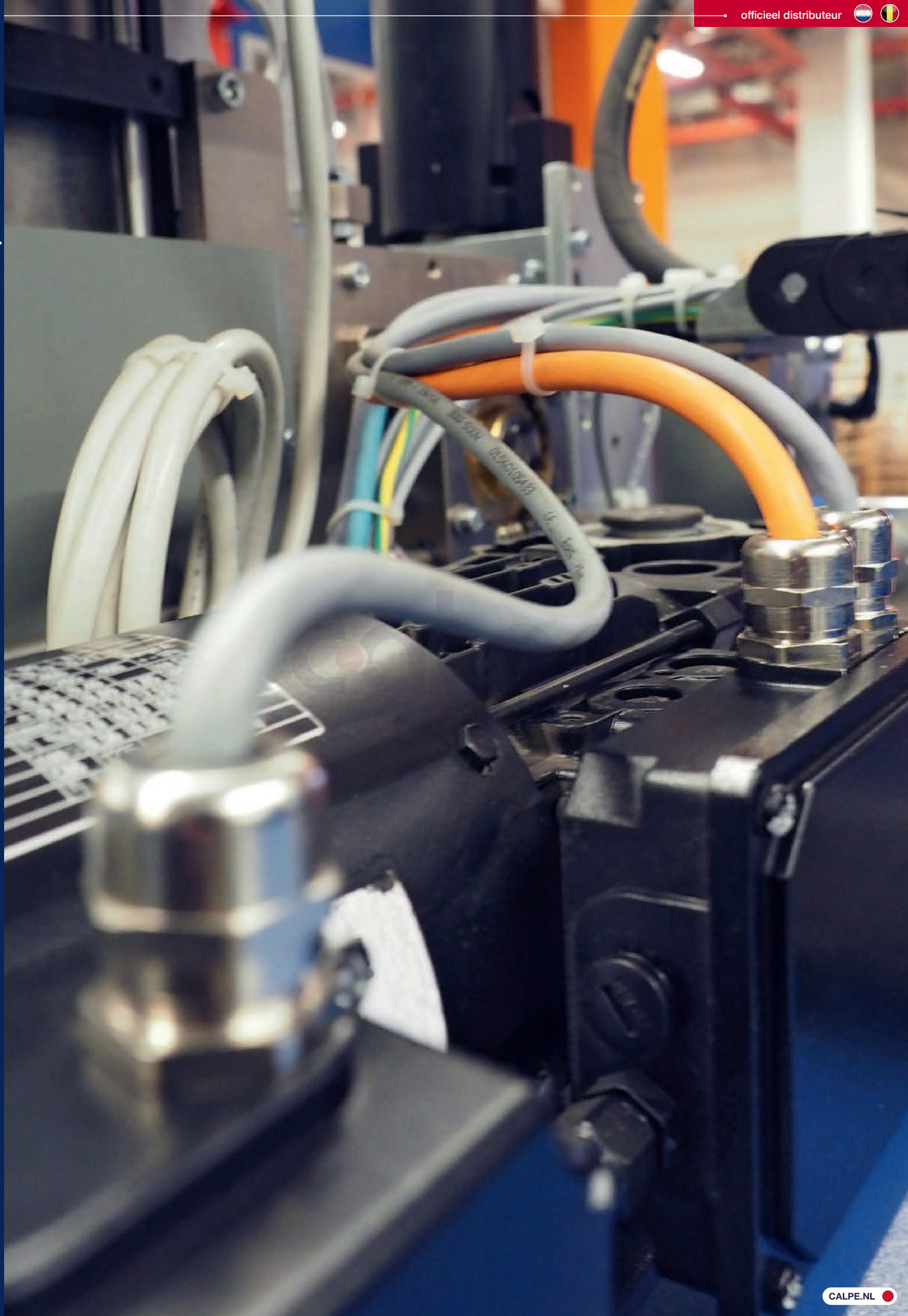
Temperature range: -20°C up to +100°C
Temperature range temporary: -30°C up to +150°C

Part no. light grey RAL 7035	Part no. dark grey RAL 7001	Part no. black RAL 9005	ØDrill hole / Metr.	Cable Ø from / to mm	Spanner size mm	Unit	
908054	908060	908062	16,3 / M16	5,0 - 10,0	22	50	-
908055	908061	908063	20,3 / M20	6,0 - 12,0	24	50	-
908368	908383	908385	25,3 / M25	11,0 - 17,0	29	25	-
908369	908384	908386	32,3 / M32	15,0 - 21,0	36	25	-

Disassembly tool

Part no.	Type	Unit	
908056	Disassembly tool for Ø16 and Ø20	1	-
908387	Disassembly tool for Ø25 and Ø32	1	-

Dimensions and specifications may be changed without prior notice.




SELECTION TABLE - Cables in drag chains
SELECTION TABLE - CABLES & WIR
Part No.
Page
Part No.
Control Cable, screened and unscreened
IZ-602 RC-C-PUR
Single 602 RC-J/-O
Single 602-RC-CY-J/-O
IZ-602 RC
IZ-602 RC-PUR
IZ-602 RC-CY
IZ-602 RC-C-PUR
IZ-HF
IZ-HF-CY
MULTIFLEX® 600
MULTIFLEX® 600-C
PURö-IZ-HF
PURö-IZ-HF-YCP
MULTIFLEX 512® -PUR
MULTIFLEX 512® -C-PUR
MULTIFLEX 512® -PUR UL/CSA
MULTIFLEX 512® -C-PUR UL/CSA
IZ-HF-CY
PURö-IZ-HF-FCP
MULTISPEED® 600-PUR-J/-O
MULTISPEED® 600-C-PUR-J/-O
MULTISPEED® 500-PVC
MULTISPEED® 500-PVC UL/CSA
MULTISPEED® 500-PUR
MULTISPEED® 500-PUR UL/CSA
Torsion cables
WK 103w-T
WK 103w EMV D-T
WK 103k-T
WK 103k EMV D-Torsion
WK 135-T
WK 135 EMV D-T
WK 137-T FT4
WK 137 EMV D-T
Tower & Infrastruc
HELUKABEL®
Questionnaire for energy drag chains
Company
First name, Name
Street, No.
Postal Code, Place
Phone / Fax
E-Mail
Installation site
Kind of machine
In operation since
Sender
1. Drag Chain-Parameter
1. Chain length/chain width
2. Chain pitch
3. Bending radius
4. Guide stays existing
5. Frame stays existing
6. Layout/Installation
2. Installation and Movement-Parameter
1. Movement distance (max.)
2. Speeds
3. Acceleration
4. Frequency per time unit
5. Average movement distance/cycle
6. Daily working duration
7. Feeding at mid of moving distance
8. Addtional weight/chain
3. Cable-Parameter
Enquiry Special Cable
Phone +49 7150 9209-0
Fax +49 7150 81786
E-Mail: anfrage-spezialkabel@helukabel.de
Enquiry
Application
Temperatures
Construction

TECHNICAL INFORMATION

CURRENT RATINGS FOR INSTALLATION A1, A2, B1 AND B2

Cables for fixed installation within buildings

VDE relevant page, approval required

No online version available

VDE approval see inside back cover

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CURRENT RATINGS FOR INSTALLATION CONDITIONS

C, E, F and G – Cabel for fixed installation within buildings

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CURRENT RATINGS FOR INSTALLATION CONDITIONS

Cables for fixed installation within buildings – A1, A2, B1 and B2

VDE relevant page, approval required

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CURRENT RATINGS FOR INSTALLATION CONDITIONS

Cables for fixed installation within buildings – C, E, F and G

VDE relevant page, approval required

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CURRENT RATINGS FOR CABLES AND INSULATED WIRES

up to 1000 V and heat resistant cables

VDE relevant page, approval required

No online version available

VDE approval see inside back cover

CURRENT RATINGS FOR CABLES FROM 0,6/1kV

Special rubber-insulated single core cables, multicore rubber cables and trailing cables

VDE relevant page, approval required

No online version available

VDE approval see inside back cover

CURRENT RATINGS (GENERAL)

for flexible cables, for non-existing cable types in the previous tables

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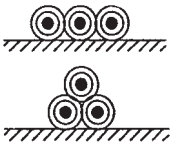
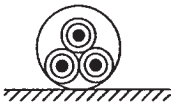
CURRENT RATINGS FOR HELUTHERM® 145

Operting temperature at conductor 120° C

For permanent operating to the ambient temperature of 30° C. Conversion factors for the deviating site operation conditions – see tables below.
Sufficiently large or ventilated rooms in which the ambient temperature is not noticeably increased by the heat losses from the cables. Protection should be taken from the solar radiation etc.

Installation	 in open air	 on face without inter-contact	 on surface with inter-contact	 in tubes, conduites, cabinets
Conversion factors for grouping	–	to table 1	to table 2	to table 3
Cross-section, mm²	Current ratings in Ampere (A) up to 30° C ambient temperature			
0,25	13	12	9	7
0,33	17	15´	11	9
0,50	19	18	12	10
0,75	24	23	17	13
1,0	31	30	20	17
1,5	39	36	25	20
2,5	51	48	33	26
4	68	65	45	36
6	88	84	58	46
10	121	116	80	64
16	160	152	106	85
25	211	200	140	111
35	261	248	172	138
50	320	304	211	169
70	411	391	272	217
95	502	476	331	265
120	587	558	387	310
150	680	646	449	359
185	781	743	516	413
240	931	884	614	492

Conversion factors for grouping

Number of single core cables for 2-phase or 3-phase systems		1	2	3	4	5	6	7	8	9	10	12
Table 1	Factor	1,00	0,94	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90
Table 2	Factor	1,00	0,85	0,79	0,75	0,73	0,72	0,72	0,71	0,70	–	–
Table 3	Factor	1,00	0,80	0,70	0,65	0,60	0,57	0,54	0,52	0,50	0,48	0,45

Conversion factors for deviating ambient temperatures

Temperature in °C	20	30	40	50	60	70	80	90	95	100	105	110	115
Factor	1,05	1,00	0,94	0,88	0,82	0,75	0,67	0,58	0,53	0,47	0,41	0,33	0,24

CURRENT RATINGS FOR SILICONE CABLES AND WIRES

The indicated values stated in the following table are considered as guiding values. These are to be selected each particularly for the individual application.

Heat-resistance at an ambient **temperature up to 150°C**

	Group 1	**Group 2**	**Group 3**
Nominal-cross-section	current-carrying capacity A	current-carrying capacity A	current-carrying capacity A
0,25	2,8	–	5
0,5	6	7	10
0,75	9	12	15
1,0	12	15	19
1,5	16	18	24
2,5	21	26	32
4	28	34	42
6	36	44	54
10	49	61	73
16	65	82	98
25	85	108	129
35	105	135	158
50	140	168	198
70	175	207	245
95	210	250	292
120	250	292	344
150	–	335	391
185	–	382	448
240	–	453	528
300	–	523	608

Group 1: One or more single core cables laid in duct.
Group 2: Multicore cables, flexible cables laid in open or ventilated conduits.
Group 3: Single core cables laid in open air with a spacing at least equal to cable diameter.

Power ratings for
ambient temperature over 150°C
The following conversion factors are valid:

Temperature °C	current-carrying capacity values in %
up to 150	100
over 150 to 155	91
over 155 to 160	82
over 160 to 165	71
over 165 to 170	58
over 170 to 175	41

CURRENT RATINGS FOR NYY, NAYY, NYCY, NYCWY, NAYCWY 0,6/1 kV

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COLOUR CODE ACCORDING TO DIN VDE 0293[1] (OLD)

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COLOUR CODE ACCORDING TO DIN 47100

with colour repetition from core no. 45 and above

Electronic control and computer cable: **single cores** stranding

The insulation of the conductor gives the first basic colour. The codes of the multi-coloured identification are combined with a basic colour and colour rings. The second and third colour is printed on the basic colour as a form of ring.

The ring width is 2–3 mm. A less unsharpness on the edge of the identification colour and a minor pledging of both half-rings are permitted.

The cores are to be counted continuously through all layers at the same direction, beginning with the outer layer towards inside.

No.	Basic-Ring-colours
1	white
2	brown
3	green
4	yellow
5	grey
6	pink
7	blue
8	red
9	black
10	violet
11	grey-pink
12	red-blue
13	white-green
14	brown-green
15	white-yellow
16	yellow-brown

No.	Basic-Ring-colours
17	white-grey
18	grey-brown
19	white-pink
20	pink-brown
21	white-blue
22	brown-blue
23	white-red
24	brown-red
25	white-black
26	brown-black
27	grey-green
28	yellow-grey
29	pink-green
30	yellow-pink
31	green-blue
32	yellow-blue

No.	Basic-Ring-colours
33	green-red
34	yellow-red
35	green-black
36	yellow-black
37	grey-blue
38	pink-blue
39	grey-red
40	pink-red
41	grey-black
42	pink-black
43	blue-black
44	red-black

No.	Basic-Ring-colours
45	white
46	brown
47	green
48	yellow
49	grey
50	pink
51	blue
52	red
53	black
54	violet
55	grey-pink
56	red-blue
57	white-green
58	brown-green
59	white-yellow
60	yellow-brown
61	white-grey

COLOUR CODE ADAPTED* TO DIN 47100

without colour repetition

No.	Basic-Ring-colours
1	white
2	brown
3	green
4	yellow
5	grey
6	pink
7	blue
8	red
9	black
10	violet
11	grey-pink
12	red-blue
13	white-green
14	brown-green
15	white-yellow
16	yellow-brown

No.	Basic-Ring-colours
17	white-grey
18	grey-brown
19	white-pink
20	pink-brown
21	white-blue
22	brown-blue
23	white-red
24	brown-red
25	white-black
26	brown-black
27	grey-green
28	yellow-grey
29	pink-green
30	yellow-pink
31	green-blue
32	yellow-blue

No.	Basic-Ring-colours
33	green-red
34	yellow-red
35	green-black
36	yellow-black
37	grey-blue
38	pink-blue
39	grey-red
40	pink-red
41	grey-black
42	pink-black
43	blue-black
44	red-black

No.	Basic-Ring-colours
45	white-brown-black
46	yellow-green-black
47	grey-pink-black
48	red-blue-black
49	white-green-black
50	brown-green-black
51	white-yellow-black
52	yellow-brown-black
53	white-grey-black
54	grey-brown-black
55	white-pink-black
56	pink-brown-black
57	white-blue-black
58	brown-blue-black
59	white-red-black
60	brown-red-black
61	black-white

* deviation to DIN, without colour repetition, from core no. 45 and above

PAIR-COLOUR CODE ACCORDING TO DIN 47100

with colour repetition

Electronic control and computer cable: **pair** stranding

The insulation of the conductor gives the first basic colour. The codes of the multi-coloured identification are combined with a basic colour and colour rings. The second colour is printed on the basic colour as a form of ring. The ring width is 2–3 mm. A less unsharpness on the edge of the identification colour and a minor pledging of both half-rings are permitted.
The cores are to be counted continuously through all layers at the same direction, beginning with the outer layer towards inside.

Pair-stranding Pair-no.			core	colour
1	23	45	a	white
			b	brown
2	24	46	a	green
			b	yellow
3	25	47	a	grey
			b	pink
4	26	48	a	blue
			b	red
5	27	49	a	black
			b	violet
6	28	50	a	grey-pink
			b	red-blue
7	29	51	a	white-green
			b	brown-green
8	30	52	a	white-yellow
			b	yellow-brown
9	31	53	a	white-grey
			b	grey-brown
10	32	54	a	white-pink
			b	pink-brown
11	33	55	a	white-blue
			b	brown-blue

Pair-stranding Pair-no.			core	colour
12	34	56	a	white-red
			b	brown-red
13	35	57	a	white-black
			b	brown-black
14	36	58	a	grey-green
			b	yellow-grey
15	37	59	a	pink-green
			b	yellow-pink
16	38	60	a	green-blue
			b	yellow-blue
17	39	61	a	green-red
			b	yellow-red
18	40	62	a	green-black
			b	yellow-black
19	41	63	a	grey-blue
			b	pink-blue
20	42	64	a	grey-red
			b	pink-red
21	43	65	a	grey-black
			b	pink-black
22	44	66	a	blue-black
			b	red-black

Colour code as per DIN 47002

YV-Equipment wires
(for twin colour cables, the base colour is underlined)

ws	white	br	brown
gn	green	ge	yellow
gr	grey	rs	pink
bl	blue	rt	red
sw	black	vi	violet
wsbr	white-brown	wsgn	white-green
wsge	white-yellow	wsbl	white-blue
wsrt	white-red	wssw	white-black
brgn	brown-green	brge	brown-yellow
brbl	brown-blue	brsw	brown-black
gnge	green-yellow	gnrt	green-red
gnsw	green-black	gebl	yellow-blue
gert	yellow-red	gesw	yellow-black
grrt	grey-red	grsw	grey-black
rssw	pink-black	rsvi	pink-violet
blrt	blue-red	rtsw	red-black
virt	violet-red		

Colour code for YR-Bell Sheathed Cables

2 x 0,8: bk, bu
3 x 0,8: bk, bu, bn
4 x 0,8: bk, bu, bn, ye
5 x 0,8: bk, bu, bn, ye, gn
6 x 0,8: bk, bu, bn, ye, gn, vt
8 x 0,8: bk, bu, bn, ye, gn, vt, wh, og
10 x 0,8: bk, bu, bn, ye, gn, vt, wh, og, tr, gy
12 x 0,8: bk, bu, bn, ye, gn, vt, wh, og, tr, gy, rd, lbu
14 x 0,8: bk, bu, bn, ye, gn, vt, wh, og, tr, gy, rd, lbu, cog, lgn
16 x 0,8: bk, bu, bn, ye, gn, vt, wh, og, tr, gy, rd, lbu, cog, lgn, lrd, lye

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COLOUR CODE ACCORDING TO INTERNATIONAL STANDARD

Electronic control UL-version: single cores stranding

The insulation of the conductor gives the first basic colour. The codes of the multi-coloured identification are combined with a basic colour and colour rings. The second colour is printed on the basic colour as a form of ring.

The ring width is 2–3 mm. A less unsharpness on the edge of the identification colour and a minor pledging of both half-rings are permitted.

The cores are to be counted continuously through all layers at the same direction, beginning with the inside layer towards outer.

No.	Basic-Ring-colours	No.	Basic-Ring-colours	No.	Basic-Ring-colours	No.	Basic-Ring-colours
1	black	16	white-green	31	green-red	46	grey-brown
2	brown	17	white-blue	32	green-orange	47	grey-red
3	red	18	white-violet	33	green-blue	48	grey-orange
4	orange	19	white-grey	34	green-violet	49	grey-yellow
5	yellow	20	brown-black	35	green-grey	50	grey-green
6	green	21	brown-red	36	green-white	51	grey-blue
7	blue	22	brown-orange	37	yellow-black	52	grey-violet
8	violet	23	brown-yellow	38	yellow-brown	53	grey-white
9	grey	24	brown-green	39	yellow-red	54	orange-black
10	white	25	brown-blue	40	yellow-orange	55	orange-brown
11	white-black	26	brown-violet	41	yellow-blue	56	orange-red
12	white-brown	27	brown-grey	42	yellow-violet	57	orange-yellow
13	white-red	28	brown-white	43	yellow-grey	58	orange-green
14	white-orange	29	green-black	44	yellow-white	59	orange-blue
15	white-yellow	30	green-brown	45	grey-black	60	orange-violet

PAIR-COLOUR CODE ACCORDING TO INTERNATIONAL STANDARD

Electronic control UL-version: **pair** stranding

The insulation of the conductor gives the first basic colour. The codes of the multi-coloured identification are combined with a basic colour and colour rings. The second colour is printed on the basic colour as a form of ring.
The ring width is 2–3 mm. A less unsharpness on the edge of the identification colour and a minor pledging of both half-rings are permitted.
The cores are to be counted continuously through all layers at the same direction, beginning with the inside layer towards outer.

Pair-stranding Pair-no.	core	colour	Pair-stranding Pair-no.	core	colour	Pair-stranding Pair-no.	core	colour
1	a b	black brown	9	a b	black white	17	a b	brown white
2	a b	black red	10	a b	brown red	18	a b	red orange
3	a b	black orange	11	a b	brown orange	19	a b	red yellow
4	a b	black yellow	12	a b	brown yellow	20	a b	red green
5	a b	black green	13	a b	brown green	21	a b	red blue
6	a b	black blue	14	a b	brown blue	22	a b	red violet
7	a b	black violet	15	a b	brown violet	23	a b	red grey
8	a b	black grey	16	a b	brown grey	24	a b	red white

COLOUR CODE HELUKABEL®-JB

Colour coded Control Cables JB and SY-JB with green-yellow protective conductor

The combination of colour identification up to 102 cores consists of 11 basic colours. For core-no. 12 and more, one or two additional colour rings or longitudinal stripes are printed on the basic colour. The ring width is approximately 2 mm.

3- to 5-core cables

Colour identification according to VDE 0293 for flexible cables

3 cores = green-yellow/brown/blue
4 cores = green-yellow/brown/black/grey
5 cores = green-yellow/blue/brown/black/grey

6- and more core cables

Colour identification as per following table. The insulation of the conductor gives the first basic colour. The second and the third colour is printed on the basic colour as a form of ring or longitudinal stripe. The cores are to be counted continuously through all layers at the same direction, beginning with inner layer towards outside. Green-yellow conductor has to be arranged in the outer layer as the last core.

No.	Basic-Ring-Colour
0	green-yellow
1	white
2	black
3	blue
4	brown
5	grey
6	red
7	violet
8	pink
9	orange
10	transparent
11	beige
12	black-white
13	blue-white
14	brown-white
15	grey-white
16	red-white
17	violet-white
18	pink-white
19	orange-white
20	transparent-white
21	beige-white
22	blue-black
23	brown-black
24	grey-black
25	red-black
26	violet-black
27	pink-black
28	orange-black
29	transparent-black
30	beige-black
31	brown-blue
32	grey-blue
33	red-blue
34	pink-blue
35	orange-blue

No.	Basic-Ring-Colour
36	transparent-blue
37	beige-blue
38	grey-brown
39	red-brown
40	violet-brown
41	pink-brown
42	orange-brown
43	transparent-brown
44	beige-brown
45	red-grey
46	violet-grey
47	pink-grey
48	orange-grey
49	transparent-grey
50	beige-grey
51	orange-red
52	transparent-red
53	beige-red
54	pink-violet
55	orange-violet
56	transparent-violet
57	beige-violet
58	transparent-pink
59	beige-pink
60	transparent-orange
61	beige-orange
62	blue-white-black
63	brown-white-black
64	grey-white-black
65	red-white-black
66	violet-white-black
67	pink-white-black
68	orange-white-black

No.	Basic-Ring-Colour
69	transparent-white-black
70	beige-white-black
71	brown-white-blue
72	grey-white-blue
73	red-white-blue
74	violet-white-blue
75	pink-white-blue
76	orange-white-blue
77	transparent-white-blue
78	beige-white-blue
79	grey-white-brown
80	red-white-brown
81	violet-white-brown
82	pink-white-brown
83	orange-white-brown
84	transparent-white-brown
85	beige-white-brown
86	red-white-grey
87	violet-white-grey
88	pink-white-grey
89	orange-white-grey
90	transparent-white-grey
91	beige-white-grey
92	blue-white-red
93	brown-white-red
94	violet-white-red
95	pink-white-red
96	orange-white-red
97	brown-white-violet
98	orange-white-violet
99	brown-black-blue
100	grey-black-blue
101	red-black-blue

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COLOUR CODE HELUKABEL®-OB

Colour coded Control Cables OB and SY-OB without green-yellow protective conductor

The combination of colour identification up to 101 cores consists of 11 basic colours. For core-no. 12 and more, one or two additional colour rings or longitudinal stripes are printed on the basic colour. The ring width is approximately 2 mm.

2- to 5-core cables

Colour identification according to VDE 0293 for flexible cables

2 cores = brown/blue
3 cores = brown/black/grey
4 cores = blue/brown/black/grey
5 cores = blue/brown/black/grey/black

6- and more core cables

Colour identification as per following table. The insulation of the conductor gives the first basic colour. The second and the third colour is printed on the basic colour as a form of ring or longitudinal stripe. The cores are to be counted continuously through all layers at the same direction, beginning with inner layer towards outside.

No.	Basic-Ring-colour
1	white
2	black
3	blue
4	brown
5	grey
6	red
7	violet
8	pink
9	orange
10	transparent
11	beige
12	black-white
13	blue-white
14	brown-white
15	grey-white
16	red-white
17	violet-white
18	pink-white
19	orange-white
20	transparent-white
21	beige-white
22	blue-black
23	brown-black
24	grey-black
25	red-black
26	violet-black
27	pink-black
28	orange-black
29	transparent-black
30	beige-black
31	brown-blue
32	grey-blue
33	red-blue
34	pink-blue
35	orange-blue

No.	Basic-Ring-colour
36	transparent-blue
37	beige-blue
38	grey-brown
39	red-brown
40	violet-brown
41	pink-brown
42	orange-brown
43	transparent-brown
44	beige-brown
45	red-grey
46	violet-grey
47	pink-grey
48	orange-grey
49	transparent-grey
50	beige-grey
51	orange-red
52	tranparent-red
53	beige-red
54	pink-violet
55	orange-violet
56	tranparent-violet
57	beige-violet
58	transparent-pink
59	beige-pink
60	transparent-orange
61	beige-orange
62	blue-white-black
63	brown-white-black
64	grey-white-black
65	red-white-black
66	violet-white-black
67	pink-white-black
68	orange-white-black

No.	Basic-Ring-colour
69	transparent-white-black
70	beige-white-black
71	brown-white-blue
72	grey-white-blue
73	red-white-blue
74	violet-white-blue
75	pink-white-blue
76	orange-white-blue
77	transparent-white-blue
78	beige-white-blue
79	grey-white-brown
80	red-white-brown
81	violet-white-brown
82	pink-white-brown
83	orange-white-brown
84	transparent-white-brown
85	beige-white-brown
86	red-white-grey
87	violet-white-grey
88	pink-white-grey
89	orange-white-grey
90	transparent-white-grey
91	beige-white-grey
92	blue-white-red
93	brown-white-red
94	violet-white-red
95	pink-white-red
96	orange-white-red
97	brown-white-violet
98	orange-white-violet
99	brown-black-blue
100	grey-black-blue
101	red-black-blue

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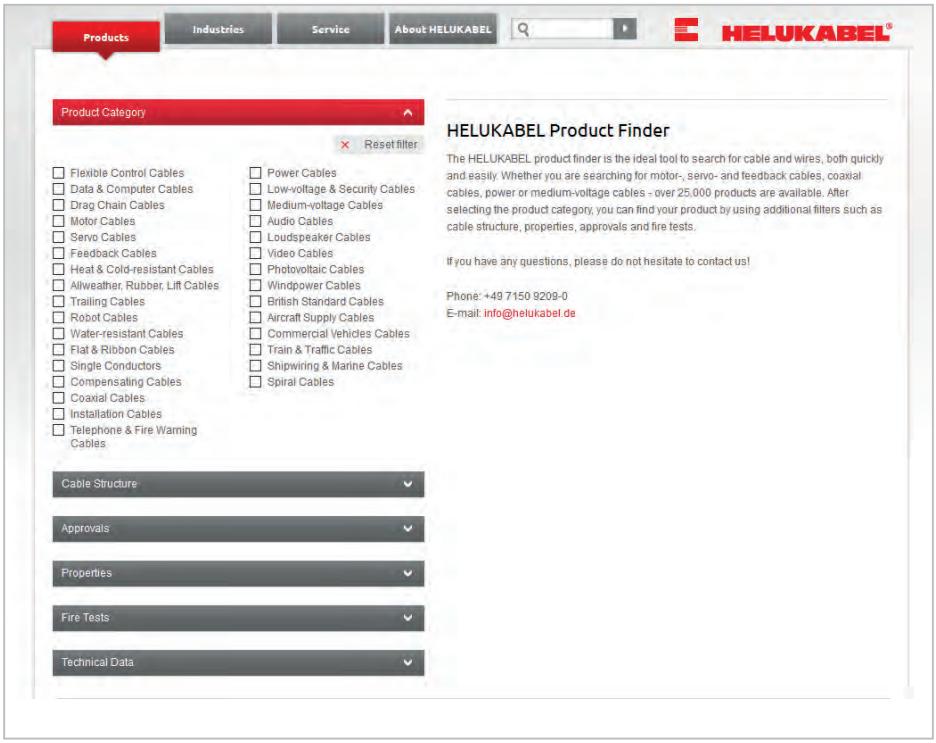

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Glossary of Cables and Wires

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NOTES

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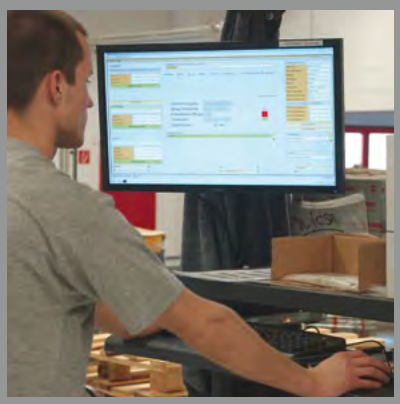




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